

**ISLAMIC FORUM APLPLICATION (IFA)**

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**UNIVERSITI UTARA MALAYSIA  
2008**

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## **Islamic Forum Application (IFA)**

A thesis submitted to the Graduate School, College of Arts and Sciences in partial  
fulfilment of the requirements for the degree Master of Science (ICT)

Universiti Utara Malaysia

By

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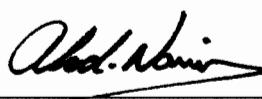
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## **ABSTRACT**

Web-based Forum is a form of web application that allows users to discuss online in a very interactive manner which gives room for feedback. The Islamic forum can be considered as a modern type of education through which Islamic knowledge can be passed to the students or learners. Therefore, this project leads to develop a web-based forum application to help students to know better about Islam. The requirements of the web-based application are identified by interviewing with Assoc. Prof. Dr. Shukri Ahmad, the executive manager of the Islamic Center; design the prototype of forum to implement the design.

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# **CHAPTER ONE**

## **INTRODUCTION**

This chapter briefly explains the background of the study that mainly involves the importance of web-based technology in the dissemination of Islamic knowledge within educational environments. The problem statement, objectives, significance and scopes of the project will also be introduced.

### **1.1 Background**

The changes in web-base technology will definitely have resultant effects on all aspects of life. It does not only introduce new activities but also makes those activities better and more acceptable than the previous ones. It introduces new innovations to the primitive ways of doing things. Web-based education is one of such innovations (Franklin, & Peat, 2001). The classic teaching model has been characterized as a culture of isolation (Schlagel, Trathen, & Blanton, 1996). Electronic communities for teachers have the potential to remove these teacher isolation barriers and to provide a support network for teachers in the classroom (Bull, Harris, Lloyd & Short, 1989; Casey, 1997). In a web-based learning environment, the learning process is achieved using information networks where all necessary information from the teacher is passed on to the students online using a web-based approach (Nevgi, & Heikkil, 2005).

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## References

Ahn, J.-Y., Han, K.-S., & Han, B.-S. (2005). Web-based education: characteristics, problems, and some solutions. *Int. J. Innovation and Learning*, 2 (3), 277-281.

Akers, R. Web Discussion Forums in Teaching and Learning Retrieved Sep. 17, 2008, [http://horizon.unc.edu/projects/monograph/CD/Technological\\_Tools/Akers.htm](http://horizon.unc.edu/projects/monograph/CD/Technological_Tools/Akers.htm)

Akpınar, Y., & Erkunt, H. (2003). Escaping from the crisis in Web-based education: an evaluation of the online communication facilities used in conventional courses. *World Transactions on Engineering and Technology Education* 2(2).

Al-Kubaisi, A. A. S. H. (2003). *The impact of modern technologies in the service of Islamic sciences-Sunnah model*. Paper presented at the Sixth Annual Conference of the Research University of the United Arab Emirates, Islamic Studies department Al Ain United Arab Emirates.

Arrington, C. T., & Rayhan, S. H. (2003). *Enterprise Java and UML* (2 nd ed.): Prentice Hall.

Babar, M. A., Winkler, D., & Biffl, S. (2007). *Evaluating the Usefulness and Easy of Use of a Groupware Tool for the software Architecture Evaluation Process*. Paper presented at the Empirical Software Engineering and Measurement, 2007. ESEM 2007, First International Symposium Madrid, spain.

Best, J. W., & Kahn, J. V. (2000). *Reaserch in education* (8th ed.): Allyn and Bacon, USA.

Bodzin, A., & Park, J. (2002). Using a nonrestrictive web-based forum to promote reflective discourse with preservice science teachers. *Contemporary Issues in Technology and Teacher Education*, 2(3), 267-289.

Bull, G., Harris, J., Lloyd, J., & Short, J. (1989). The Electronic Academic Village. *Journal of Teacher Education*, 40(4), 27-31.

Carswell, L. (2000). *Teaching via the Internet: The Impact of the Internet as a Communication Medium on Distance Learning Introductory Computing Students*. Paper presented at the ACM SIGCSE/SIGCUE: Integrating Technology into Computer Science Education, ITiCSE '97, New York.

Casey, J. (1997). *Teacher Net: Building a New Cadre of Technology Using Teachers Online*. Paper presented at the the National Educational Computing Conference (NECC), Seattle, WA.

Davie, L. E., & Wells, R. (1991). Empowering the learner through computer-mediated communication. *The American Journal of Distance Education*, 5(1), 15-23.

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13(3), 319-340.

Dennis, & Wixon. (2003). Evaluation usability methods:why the current

literature fails the practitioner. In *Interaction. ACM, 10(4)*, 28-34.

ELJAaiadi, F. A. (2004). *usage of electronic technology in the online education and da'wa*. Paper presented at the 17th national conference for computer, university of the king Abdel Aziz.

EL-Tahawy, A. The Internet is the New Mosque Fatwa at the Click of a Mouse. Retrieved Sep 12, 2008, from <http://www.arabinsight.org/aiarticles/188.pdf>

Ermel, C., Holscher, K., Kuske, S., & Ziemann, P. (2005). *Animated Simulation of Integrated UML Behavioral Models based on Graph Transformation*. Paper presented at the The 2005 IEEE Symposium on Visual Languages and Human-Centric Computing (VL/CC'05).

Franklin, S., & Peat, M. (2001). The use of mixed delivery Modes to Increase Learning Opportunities. *Australian Journal of Education Technology, 17(1)*, 37-38.

George, J., Valacich, J. S., Hoffer, J. A., & Batra, D. (2006). *Object-oriented Systems Analysis and Design* (2nd ed.): Prentice Hall.

Gilbert, & Steven, W. (1995). Important questions for higher education: Sex, drugs, rock and roll, books or computers. Retrieved 28/8, 2008, from <http://www.aahe.org/tltr-ch1.htm>.

Hare, M. (2001). The development of an internet forum for long-term participatory group learning about problems and solutions to sustainable urban water supply management. Retrieved sep 3rd, 2008, from <http://ais.gmd.de/~maerker/online-mediation/workshop2/>

Helic, D., Maurer, H., & Scerbakov, N. (2004). Discussion Forums as Learning Resources in Web-based of Education. Retrieved 21/7, 2008, from [www.actapress.com/PDFViewer.aspx?paperId=20651](http://www.actapress.com/PDFViewer.aspx?paperId=20651)

Hoffer, J. A., George, J. F., & Valacich, J. S. (2002). *Modern systems analysis & design* (3rd ed.). New Jersey: Prentice Hall.

Hong, S.-K., & Jun, W. (2004). The Development and Application of a Web-Based Information Communication Ethics Education System. Retrieved 20 Oct, 2008, from [www.informatik.uni-trier.de/~ley/db/inditree/jJun:Woochun.html](http://www.informatik.uni-trier.de/~ley/db/inditree/jJun:Woochun.html)

Jahanian, F. (2007). *Student Forum*. Paper presented at the The 37th Annual IEEE/IFIP International Conference on Dependable Systems and Networks, IEEE,0-7695-2855-4/07.

Kaisa, & Kanerva. (2003). Quality Teaching in Web-based Environments. Retrieved 29/7, 2008, from [http://www.helsinki.fi/julkaisut/aineisto/hallinnon\\_julkaisuja\\_34\\_2006.pdf](http://www.helsinki.fi/julkaisut/aineisto/hallinnon_julkaisuja_34_2006.pdf)

Kendall, K. E., & Kendall, J. E. (2002). *System analysis and design* (5th ed.). Upper Sregisterle River, New Jersey: Prentice Hall.

Kurtz, T. (2004). Software Assurance of Web-based Applications (SAWbA). Retrieved Aug 21, 2008, from <http://osat-ext.grc.nasa.gov/rom/sawba>

Laudon, K. C., & Laudon, J. P. (2000). *Management information system:Organization and technology in the networked enterprise* (6th ed.). New Jersey: Prentice Hall.

Lynch, M. M. (1998). Facilitating Knowledge Construction and Communication on the Internet. Retrieved Oct. 2, 2008, from <http://ts.mivu.org/default.asp?show=article&id=1034>

Milton, M., & John, M. (2006). Building an Internet Governance Forum. Internet Governance Project. Retrieved Aug 25th, 2008, from <http://dcc.syr.edu/misarticles/IGP-Forum.pdf>

Nevgi, A., & Heikkil, M. (2005). Academic web-based teaching, Quality online dimensions of virtual learning in higher education. Retrieved 13 september, 2008, from <http://www.helsinki.fi/ktl/julkaisut/lv/laadukkaastiverkossa.pdf>

Ober, I. (2000). *More Meaningful UML Models*. Paper presented at the French RNRT Project No 98.s.02882000, IEEE. 0-7695-0918-5100.

O'Docherty, M. (2005). *Object-Oriented Analysis and Design Understanding System Development with UML 2.0*. New York: John Wiley & Sons, Ltd.

Organero, M. M., & Kloos, C. D. (2007). *Using Forums and Assessments as Motivational Tools in E-learning Courses: a Case Study* Paper presented at the The 37th Frontiers in Education Conference, IEEE, 1-4244-1084-3/07, Milwaukee, WI.

Orlowska, M. E. (2001). *Integrating Web Based Applications - Challenges and Opportunities*. Paper presented at the The 7th International Conference on Database Systems for Advanced Applications The University of Queensland ,Australia

O'Sullivan, D. T. J., & keane, M. M. (2000). *The Specification of a web-based Multimedia information System for Building Appraisal*. Paper presented at the CIB W89 International Conference on Building Education and Research (BEAR2000), Atlanta Georgia USA.

Oxford Dictionary. (1984). *The Oxford Illustrated Dictionary*. Book Club Associates London.

Pahl, C. (2003). Managing evolution and change in web-based teaching and learning environments *Computers & Education* 40(2), 102-112.

Patel, J., & Aghayere, A. (2006). *Students' Perspective on the Impact of a Web-based*

*Discussion Forum on Student Learning.* Paper presented at the The 36th ASEE/IEEE Frontiers in Education Conference., San Diego, CA,USA.

Rumbaugh, J. (1994). Getting started - Using Use Cases to Capture Requirements.

*Journal of Object Oriented Programming.*

Salleh, B. M., & Mansor, W. F. A. W. (2004). An Online Forum: A Tool for Enhancing Inter-Academic and Socio-cultural Interactions. *Internet Journal of e-Language Learning & Teaching*, 1(2), 33-47.

Schlagal, B., Trathen, W., & Blanton, W. (1996). Structuring Telecommunications to Create Instructional Conversations About Student Teaching. *Journal of Teacher Education*, 47(3), 175-183. Shortridge. Retrieved Aug. 27, 2008, from [www.usq.edu.au/electpub/e-jist/docs/old/vol4no1/2001docs/pdf/shortridge.pdf](http://www.usq.edu.au/electpub/e-jist/docs/old/vol4no1/2001docs/pdf/shortridge.pdf)

Soekartawi. (2006). Effectiveness Of Collaborative Learning In Online Teaching. *Malaysian Online Journal of Instructional Technology (MOJIT)*, 3(1), 68-77.

Takahashi, K., & Liang, E. (1997). Analysis and Design of Web-based Information Systems. Retrieved Sep 9th, 2008, from <http://www.ra.ethz.ch/CDstore/www6/Technical/Paper245/PAER245.html>

Takhteyev, Y. (2007). *Using Foreign Forums* Paper presented at the The 40th Hawaii International Conference on System Sciences, IEEE, 1530-1605/07, Waikoloa, Hawaii.

Thomas, D., Lynch, & Cynthia, E. L. (2003). Web-Based Education. *the Innovation Journal, the Public Sector Innovation Journal*, 8(4).

Vaishnavi, & Kuechler. (2004). Design Research in information system. Retrieved Aug 14th, 2008, from <http://www.isworld.org/Researchdesign/drisISworld.htm>

Varaki, B. S. (2006). A Reflection on Three Web-Based Teaching Critical Thinking: Toward A Compromise Approach *journal of Faculty of Educational Sciences* 39(2), 177-191

Wichansky, A. M. (2000). Usability testing in 2000 and beyond. *Ergonomics*, Vol. 43, pp 998-1006. Retrieved Aug. 22, 2008, from <http://web23.epnet.com/>

Xiao, L., & Dasguota, S. (2002). *Measurement of User Satisfaction with Web-Based Information System: An Empirical Study*. Paper presented at the Eighth Americas Conference on Information Systems.

Yang, H., & Tang, J. (2003). Effects of Social Network on Students' Performance: A Web-based Forum Study in Taiwan *JALN* 7(3).