Visa and Passport Expiry Reminder System

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Abstract

The University Utara Malaysia aspires to be a management university that is a paragon of efficiency and of world class level. In reaching this goal, UUM has opened its door to welcome a large number of international students, to the date this article is written, there are approximately 2000 international students in UUM. The large number of international students results in problem of the student visa renewal. It is not an easy task for the Unit of International Affairs to manage all the student visa renewal. Thus, this research proposes a development of a system that will remind students on the visa and passport expiry when the date is almost due. By sending SMS and emails, this system can reminder the international students to renew their visa. The development of this system is hoped to enhance the students' visa and passport management by the Unit of International Affairs of UUM.

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CHAPTER ONE

INTRODUCTION

1.1 Background

Aiming to become a world class university, Universiti Utara Malaysia (UUM) opens its door to foreign students. All the international students should get student visa from Malaysia immigration in order to study legally in UUM. To the date this report is written, the number of the foreign students in UUM is approximately 2000, with such large number; the visa expiration issue should be taken into consideration.

However, according to the Malaysian law and UUM law, international students need to submit their national passports to the international department two weeks before the due date, but many students forget about the submission. Offenders who exceeded the date of visa renewal will be charged not exceeding RM 10,000.00 or imprisonment of more than five years (Official website immigration department of Malaysia, 2009).

Though, since there are 1853 international students in UUM, as shown in Table 1.1 (The Unit of International Affairs, 2009), the number of international students who need to make or renew their visa also reached 108 student in June 2009, as shown in Table 1.2(The Unit of International Affairs, 2009), this problem became very significant and need to be solved immediately.

The contents of the thesis is for internal user only

REFERENCES

- Alalfi, M.H.; Cordy, J.R.; Dean, T.R. (2009). Automated Reverse Engineering of UML Sequence Diagrams for Dynamic Web Applications. IEEE.
 - Antoniol, G.; Di Penta, M. & Zazzara, M.(2004). Understanding Web applications through dynamic analysis. IEEE.
 - Asvial, M.; Sirat, D. & Susatyo, B.(2008)Design and analysis of anti spamming SMS to prevent criminal deception and billing froud: Case Telkom Flexi. Management of Innovation and Technology, 2008. ICMIT 2008. 4th IEEE International Conference on 21-24 Sept. 2008 Page(s):928 - 933.IEEE.
 - Benslimane, S.M.; Malki, M. & Bouchiha, D.(2009).Towards ontology-based approach for maintaining web application. IEEE.
 - Benting Wan.(2008). Business-Based SMS Mobile Search. Advanced Information Networking and Applications - Workshops, 2008. AINAW 2008. 22nd International Conference on 25-28 March 2008 Page(s):692 - 695.IEEE.
 - Bo Yan; Yiyun Chen& Zhou, P.(2008). Short Message Services in Logistics Information System. Computing, Communication, Control, and Management, 2008. CCCM '08. ISECS International Colloquium on Volume 3, 3-4 Aug. 2008 Page(s):358 - 362.IEEE.
 - Boon Chin Lim; Krzymien, W.A. & Schlegel, C.(2009). Efficient Sum Rate Maximization and Resource Allocation in Block-Diagonalized Space-Division Multiplexing. Vehicular Technology, IEEE Transactions on Volume 58, Issue 1, Jan. 2009 Page(s):478 - 484.IEEE.
 - Bose, Abhijit & Shin, Kang G.(2006). On Mobile Viruses Exploiting Messaging and Bluetooth Services Securecomm and Workshops, 2006 Aug. 28 2006-Sept. 1 2006 Page(s):1 10 .IEEE.
 - Benting Wan.(2008). Business-Based SMS Mobile Search. Advanced Information Networking and Applications - Workshops, 2008. AINAW 2008. 22nd International Conference on 25-28 March 2008 Page(s):692 - 695.IEEE.

- Chengying Mao. (2009). Visualization and Dependency Analysis for Linkage Structures in Web Applications . IEEE.
- Conallen, J. (2000). Building web applications with UML. The Addison-Wesley Object Technology Series.
- Dettmer, R.(1997).Short message gets longer [GSM] IEE Review Volume 43, Issue 3, 15 May 1997 Page(s):104.IEEE.
- Elbaum, S.; Chilakamarri, K.-R.; Gopal, B. & Rothermel, G. (2005). Helping end-users "engineer" dependable Web applications. IEEE.
- Endrejat, F. & Pillay, P.(2009)Ride-through of Medium Voltage Synchronous Machine compressor drives Electric Machines and Drives Conference, 2009. IEMDC '09. IEEE International 3-6 May 2009 Page(s):909 - 915 .IEEE.
- Eom.K. (2003). A design and implementation of wireless sensor gateway for efficient querying and managing through World Wide Web. Consumer Electronics, IEEE Transactions, 2003: p. 1090 – 1097
- Fan Tien Cheng; Haw-Ching Yang & Chia-Ying Tsai.(2004). Essential SMSs: developing a service management scheme for semiconductor factory management systems Robotics & Automation Magazine, IEEE Volume 11, Issue 1, Mar 2004 Page(s):26 40.IEEE.
- Garner, P.; Mullins, I.; Edwards, R. & Coulton, P.(2006).Mobile Terminated SMS Billing Exploits and Security Analysis Information Technology: New Generations, 2006. ITNG 2006. Third International Conference on 10-12 April 2006 Page(s):294 299 .IEEE.

Hassan, A.E. & Holt, R.C.(2002). Architecture recovery of Web applications. IEEE.

- Heng Xu, Hock Hai Teo & Hao Wang (2002). Foundations of SMS Commerce Success: Lessons from SMS Messaging and Co-opetition. 2(2),Page 4-5.
- Hooi, T.C.; Yusoff, Y. & Hassan, Z. (2005).Comparative Study on Applicability of WEBMO in Web Application Cost Estimation within Klang Valley in Malaysia. IEEE.

- Jawarkar, N.P.; Vasif Ahmed& Thakare, R.D.(2007). Remote Control using Mobile through Spoken Commands. Signal Processing, Communications and Networking, 2007. ICSCN '07. International Conference on 22-24 Feb. 2007 Page(s):622 - 625 .IEEE.
- Lee.U. December 6, 2001. HomeSite 5.Web developer's virtual library. Retrieved 24 October, 2009 from http://www.wdvl.com/Reviews/HTML/HomeSite5/
- Lei Xu & Baowen Xu. (2004). A framework for Web applications testing. IEEE.
- Liu Wei & Li Hai. (2007). SAR Processing System Based on Plug-Ins Architecture. The Eighth International Conference on Electronic Measurement and Instruments. IEEE.
- Jixin Wang, Yanhua Lin & Yi Zhang. (2008). Tacit Knowledge Management for Postgraduates Based on Web2.0.IEEE.
- Jovanovic, Nenad; Kirda, Engin& Kruegel, Christopher. (2003).Preventing Cross Site Request Forgery Attacks. IEEE.
- Kappel, G.; Retschitzegger, W. & Schwinger, W. (2000).Modeling customizable Web applications a requirement's perspective. IEEE.
- Ki-Hyuk Nam; Ki-Seok Bang & Wan Choi. (2008). A Method for Distributing Web Applications. IEEE.
- Kyu Chul Lee& Hong Hyup Lee.(2007). SMS Transmission Mechanisms for Multi-Protocols on VoIP. Advanced Communication Technology, The 9th International Conference on Volume 3, 12-14 Feb. 2007 Page(s):1697 - 1701 .IEEE.

Lei Xu & Baowen Xu. (2004). A framework for Web applications testing. IEEE.

- Lucca, G.A.; Penta, M.; Antoniol, G.& Casazza, G.(2001). An approach for reverse engineering of web-based applications. IEEE.
- Martin Glinz. On Non-Functional Requirements. In 15th IEEE International Volume, Issue, 15-19 Oct, pages 21–26, 2007.

Naor, Z.(2004). An efficient short messages transmission in cellular networks. INFOCOM 2004. Twenty-third AnnualJoint Conference of the IEEE Computer and Communications Societies. Volume 1, 7-11 March 2004 Page(s): .IEEE.

Official website immigration department of Malaysia. Retrieved July 4th, 2009, from http://www.imi.gov.my/eng/perkhidmatan/im_DokumenDlmNegeri.asp

Santos, J.M., J.; Martins, J.C.;, Instrumentation remote control through internet with PHP. Virtual Environments, Human-Computer Interfaces and Measurement Systems, 2008. VECIMS 2008. IEEE Conference, 2008: p. 41 – 44

Shan, T.C. & Hua, W.W. (2006). Taxonomy of Java Web Application Frameworks. IEEE.

- Shaizan, H. & Li, F. (2003) Utilizing IGV Approach In Evaluating the Usability of Web Sites, Journal of Information and Communication Technology,2(2), 25-40
- Siang, B.K.; Bin Ramli, A.R.; Prakash, V. & Bin Syed Mohamed, S.A.R.(2003)SMS gateway interface remote monitoring and controlling via GSM, SMS. Telecommunication Technology, 2003. NCTT 2003 Proceedings. 4th National Conference on 14-15 Jan. 2003 Page(s):84 -87.IEEE.
- Singh, S.& Slous, R. (1998). Accelerating Adobe Photoshop with reconfigurable logic FPGAs for Custom Computing Machines, 1998. Proceedings. IEEE Symposium on 15-17 April 1998 Page(s):236 – 244. Digital Object Identifier 10.1109/FPGA.1998.707901.IEEE.
- Sun Weijun; Li Shixian & Liu Xianming. (2008). An Approach for Reverse Engineering of Web Applications. IEEE.
- Tatsubori, M. & Takahashi, K. (2006).Decomposition and Abstraction of Web Applications for Web Service Extraction and Composition. IEEE.
- Toorani, M. & Beheshti Shirazi, A.A.(2008). SSMS A secure SMS messaging protocol for the m-payment systems. Computers and Communications, 2008. ISCC 2008. IEEE Symposium on 6-9 July 2008 Page(s):700 705.IEEE.

Official website immigration department of Malaysia. Retrieved July 4th, 2009, from http://www.imi.gov.my/eng/perkhidmatan/im_DokumenDlmNegeri.asp

University Utara Malaysia, International students Kit, page 15--18.2008

- Unit of International Affair in Universiti Utara Malaysia: the number of international students currently studying in UUM in 2009 and the number of new and extended students extending visa for the month of June 2009
- Universiti Utara Malaysia official website: the introduction to UUM, Retrieved June 10, 2009, from <u>www.uum.edu.my</u>.
- Vaishnavi & Kuechler (2004). Design Research in information system. Retrieved March 15, 2007, from http://www.isworld.org/Researchdesign/drisISworld.htm
- Vougioukas, S. & Roumeliotis, M.(2001). A system for basic-level network fault management based on the GSM short message service (SMS). EUROCON'2001, Trends in Communications, International Conference on. Volume 1, 4-7 July 2001 Page(s):218 - 222 vol.1.IEEE.
- Wahono, R.S. & Jingde Cheng. (2000). Extensible requirements patterns of web application for efficient web application development. IEEE.
- Wijetunge, S.; Wijesinghe, P. & Gunawardana, U.(2008).Social Impact of SMS in Sri Lanka. Information and Automation for Sustainability, 2008. ICIAFS 2008. 4th International Conference on 12-14 Dec. 2008 Page(s):346 - 350.IEEE.
- Yan;, J.W.Y.Z.S.X.Y., A Web-based Examination System Based on PHP+MySQL. Engineering in Medicine and Biology Society, 2005. IEEE-EMBS 2005. 27th Annual International Conference, 2005 p. 2882 – 2885

Zhao, W. & Chen, J. (1999).CoOWA: a Component Oriented Web Application model. IEEE.