

WEB-BASED INTERNET MOBILE APPLICATION TO MANAGE ORGANIZATION

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WEB-BASED INTERNET MOBILE APPLICATION TO MANAGE ORGANIZATION

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By

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ABSTRACT

Information world today's, where the internet and web technology are used widely. Most of the organizations acknowledge the importance of SMS system and WEB in reaching and interacting with their users. However, there is much discussion regarding the effectiveness when it comes to SMS system. This study helped organization's students, users of organization, and willing to accept, reading and using SMS messages: effective is SMS messages compared to traditional communications. The goal of this study is to investigate the effectiveness of SMS messages compared to traditional ways for different aspects and on the other hand, to develop prototype by using Web and SMS technology to apply this system and extent students are willing to accept SMS messages on their mobile phone, since the effectiveness of SMS messages highly depends on this willing. The results of this research indicate that the use of the web and SMS for the benefit of the organization and students in all aspects instead using traditional ways to contact.

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The contents of
the thesis is for
internal user
only

Reference

- Alfonso, P., et al. (2005). "Proteomic expression analysis of colorectal cancer by two-dimensional differential gel electrophoresis." Proteomics 5(10): 2602-2611.
- Armstrong, E., J. Ball, et al. (2004). "The J2EE 1.4 tutorial." Sun Microsystems 17.
- Ashok, J. (2008). "How will Life Change in the Future Mobile Information Society." Another Opportunity for Developing Economies, Chennai, India, by TeNeT Group.
- Baida, Z., J. Gordijn, et al. (2004). A shared service terminology for online service provisioning. Proceedings of the 6th international conference on Electronic commerce, ACM.
- Bodendorf, F. and A. Schobert (2007). "Enhancing e-CRM in the insurance industry by mobile e-services." International Journal of Electronic Customer Relationship Management 1(3): 269-278.
- Bodoff, S., D. Green, et al. (2002). The J2EE tutorial, Addison-Wesley Longman Publishing Co., Inc.
- Gawande, A. (2009). "The cost conundrum." The New Yorker 1.
- Goto, K. and Y. Kambayashi (2002). "Study on mobile passenger support systems for public transportation using multi-channel data dissemination." Digital Cities II: Computational and Sociological Approaches: 235-241.
- Goto, K. and Y. Kambayashi (2003). Integration of electronic tickets and personal guide system for public transport using mobile terminals. Proceedings of the 2003 ACM SIGMOD international conference on Management of data, ACM.
- Grechanik, M., K. S. McKinley, et al. (2007). Recovering and using use-case-diagram-to-source-code traceability links. Proceedings of the the 6th joint meeting of the European software engineering conference and the ACM SIGSOFT symposium on The foundations of software engineering, ACM.
- Guthery, S. B. and M. J. Cronin (2002). Mobile application development, McGraw-Hill.
- Hillebrand, F., F. Trosby, et al. (2010). Short Message Service (SMS): The Creation of Personal Global Text Messaging, Wiley.
- Kalliola, M. (2005). "MOBILE PAYMENTS." Towards the Next Wave of Mobile Communication: 51.
- Kavassalis, P., N. Spyropoulou, et al. (2003). "Mobile permission marketing: framing the market inquiry." International Journal of Electronic Commerce 8(1): 55-79.
- Kawashima, K., K. Tadano, et al. (2009). Bilateral teleoperation with time delay using modified wave variable based controller. Robotics and Automation, 2009. ICRA'09. IEEE International Conference on, IEEE.
- Kodakanchi, V., M. H. S. Kuofie, et al. (2006). "An economic development model for it in developing countries." The Electronic Journal of Information Systems in Developing Countries 28(0).

- Koufaris, M. (2002). "Applying the technology acceptance model and flow theory to online consumer behavior." Information systems research **13**(2): 205-223.
- Miller, K. (2011). Organizational communication: Approaches and processes, Wadsworth Pub Co.
- Naismith, L., P. Lonsdale, et al. (2004). "Literature Review in Mobile Technologies and Learning: Report 11." Educational Technology.
- Qaddour, J. (2006). High peak to average ratio solution in OFDM of 4G mobile systems. Proceedings of the 2006 international conference on Wireless communications and mobile computing, ACM.
- Russo, J. E., E. J. Johnson, et al. (1989). "The validity of verbal protocols." Memory & Cognition **17**(6): 759-769.
- Saleh, Z. and M. W. PENDLEBURY (2006). "Accruals Accounting in Government" "Developments in Malaysia." Asia Pacific Business Review **12**(4): 421-435.
- Siau, K. and Z. Shen (2003). "Mobile communications and mobile services." International Journal of Mobile Communications **1**(1): 3-14.
- Singelee, D. and B. Preneel (2005). Location verification using secure distance bounding protocols. Mobile Adhoc and Sensor Systems Conference, 2005. IEEE International Conference on, IEEE.
- Surgailis, D. (2003). "CLTs for polynomials of linear sequences: Diagram formula with illustrations." Theory and applications of long range dependence: 111-128.
- Tanakinjal, G. H., H. Amin, et al. (2007). "Mobile Devices and Communication: An Analysis." Journal of Internet Banking and Commerce **12**(3).
- Turban, E., D. Leidner, et al. (2008). Information Technology For Management, (With Cd), Wiley-India.
- Vaishnavi, V. and W. Kuechler (2007). "Design research in information systems." wwwisworldorg **22**(2): 1-16.
- Wells, J. and L. Lewis (2006). "Internet Access in US Public Schools and Classrooms: 1994-2005. Highlights. NCES 2007-020." National Center for Education Statistics: 83.