

APPLICATION OF MOBILE TOURISM FOR KEDAH

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ABSTRACT

Tourism sector is one of the most important economic sectors in Malaysia and it attracts large numbers of tourists around the world. Tourists face problem of helping access in some remote area in Malaysia. However, Mobile coverage in Malaysia is very help and extensive. This study proposes a mobile application for tourism to serve tourist in Kedah. This study will contribute to support this sector, so this application will provide information, pictures and videos of tourist attractions in Malaysia in state of Kedah, that help the tourists to retrieve information in places that lacks Internet. In addition, this study has use the (Vaishnavi & Kuechler) methodology to develop application. Furthermore, this application will be built on the basis of advanced search to achieve the speed and ease of use, such as coding to filter and count the words.

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CHAPTER ONE

INTRODUCTION

1.1 Introduction

The fast development in the field of information technology has made it easier for user's mobility (Andrews, et al., 2003). In addition the huge development in the area of telecommunications, and makes it easy to browse and use information through the mobile phone such as, Mobile phones and PDAs. This technology is the formation of a new industry with a focus on information technology and mobility (Abowd, 1997).

Mobile technologies are growing speedily, as well as it helps to facilitate the activities of in our life. Moreover, it has played a significant role in the management of relationships between nation, whether economic or social event, or daily life (Goh, Kim, Lavanya, Kim, & Soh, 2006; Muller, Lenhart, Henrici, Hillenbrand, & Muller, 2004).

With the progress of wireless technology, mobile data exchange the information to the phone technology has become easier with the proliferation of networks of telecommunications in the world. It can also, connect to any place any time to obtain the information easily (Stuckman, 2001).

Use of information technology became a key strategy to enhance and improve benefits of competitions in all parts of the world. In addition, the information technology are very important in the development of hospitality services in order to cope with the wishes and needs of tourists (Lam and Cho, 2007; Wang and Qualls, 2007; Duffy, and Donegal, 2010).

The contents of
the thesis is for
internal user
only

RERERENCES

- Abowd, D., Atkeson, G., Hong, J., & Long, S. (1997). *Cyberguide a mobile context-aware tour guide*. *Baltzer/ACM Wireless Networks* 3(5): 421-433.
- Abkda, M. (2009). *Mobile-Based Application for Bus Ticketing Services (MBTS)*. Master's thesis, University Utara Malaysia.
- Al-adaileh, R. (2008). *Essentials of Management information System*, Yazeed Puplications, Karak-jordan.
- Andrews, D., Starner, T. (2003). *Using GPS to learn significant locations and predict movement across multiple users*. *Personal and Ubiquitous Computing*, Vol. 7.5, Springer London Limited.
- Aramberri, J. (2001): *The host should get lost: paradigms in tourism theory*, *Annals of Tourism Research*, vol. 28, no. 3, pp. 738-761.
- Bhavnani, A., Chiu, R., Janakiram, S., Silarszky, P., & Bhatia, D. (2008). *The role of mobile phones in Sustainable Rural poverty Reduction*. ICT policy division global information and communication department (GICT).
- Boraq, A. (2009). *Customizing Hotel Services by Mobile Application (CHSMA)*, Master's thesis, University Utara Malaysia.
- Booch, G., Rumbaugh, J., & Jacobson, I. (2005). *The Unified Modeling Language User Guide (2nd.)*. Upper Saddle River, NJ: Addison-Wesley. Retrieve: September 2009, available from: <http://www.brighthand.com/article/InStatHandheldPredictions>
- Carlsson, C., Walden, P., & Yang, a. F. (2008). , "Travel MoCo- A Mobile Community Service for Tourists", in the Proceedings of the 7th, International Conference on Mobile Business (ICMB 2008),. pp. 49-58.
- Davis, F.(1989). *Perceived usefulness, Perceived ease of use, and usre accceptance of information technology*. *MIS quarterly*, 319-340.
- Duffy, S., & Donegal, C. (2010). *Tourism and hospitality, reserch in ireland conference Shannon college of hotel management* june 15-16, 2010.
- Elalfy, E. (2005). *A General L00k at Building Application for Mobile Devices*. *Distributed Systems Online, IEEE*, 6(9), 1-3. Retrieved Dec 30, 2008 from: <http://csdl2.computer.org/comp/mags/ds/2005/09/o9005.pdf>.
- Foster, D. (2010, July 6). *Examples of Mobile Commerce*. Retrieved from http://www.chow.com/list_6702384_examples-mobile-commerce.html.

- Fodness, D. & B. Murry (1997): *Tourist information search*, Annals of Tourism Research, vol. 24, no. 3, pp. 503-523.
- Goh, K. W., Kim, E., Lavanya, J., Kim, Y., & Soh, C. B. (2006). *Issues in Implementing a Knowledge-based ECG Analyzer for Personal Mobile Health Monitoring*. Paper presented at the Engineering in Medicine and Biology Society, New York City.
- Helps, C. T. (2010). *Mobile Application Development: Essential New Directions for IT*. 2010 Seventh International Conference on Information Technology (p. 471). Brigham Young University: 978-0-7695-3984-3/10 \$26.00 © 2010 IEEE.
- Hinze, A., & Buchanan, G. (2009). *Context-awareness in mobile tourist information systems*. Challenges for user interaction, Proceedings of the International Workshop on Context in Mobile HCI, Salzburg, Austria: 2005. Retrieved from http://mobilehci.icts.sbg.ac.at/contextpapers/hinze_buchanan.pdf. Accessed on November.
- Jacobson, I., Booch, G., & Rumbaugh, J. (1999). *The Unified Software Development Process*. Reading, Mass: Addison-Wesley. Retrieved: September 2009, Available From: http://www.iadis.net/dl/final_uploads/200702C077.pdf
- Kalakota, R. A., & Whinston, B. (1997). *Electronic Commerce: A Manager's Guide*, Addison-Wesley, Reading, MA.
- Kothari, C. (1985), *Research Methodology: Methods and Techniques*, Wiley Eastern, New Delhi.
- Lam, T., Cho, V., & Qu, H. (2007). *A study of hotel employee behavioural intentions towards adoption of information technology*. International Journal of Hospitality Management 26(1): 49-65.
- Liu, Z., J. Yang, et al. (2009). *Tourism E-commerce between China and United States: A Case Study of Ctrip and Expedia*, IEEE.
- Lev-Ram, M. (2005). *Tour Guide's on the Phone*, Business 2.0, June, vol. 6, Issue 5.
- Lewis, J. (1995). *IBM computer usability satisfaction questionnaires: psychometric evaluation and instructions for use*. International Journal of Human-Computer Interaction, 7(1), 57-78.
- Muller, J., Lenhart, T., Henrici, D., Hillenbrand, M., & Muller, P. (2004). *Developing Web Applications for Mobile Devices*.
- Mohamed A., & Tahnoon Al Ali, B. (2008). *Context aware mobile Muslim companion*. Proceedings of the 5th international conference on Soft computing as transdisciplinary science and technology (p. 554).

- Mobile MA, D. (2008). *Mobile applications*. Retrieved May 29, 2010, from Mobile Marketing Association: <http://www.mmaglobal.com/mobileapplications.pdf>
- Micro Soft, c. (2010, January). *Application Submission Requirements for Windows Marketplace for Mobile*. Retrieved May 29, 2010, from windows phone: <http://developer.windowsphone.com/resources/enus/MarketplaceProhibitedApplicationTypes.pdf>
- Nguyen, M. (2005). *Slice Wireless to launch tour guidebook via mobile phone*, B & T Weekly, January 28, Issue 2504, p 8.
- Oertel, B., & Steinmüller, K. (2002). *Mobile Multimedia Services for Tourism*. ENTER 2002, Innsbruck, Springer.
- Paajarvi, M. (2004). *Future mobile data services for tourism*. Luleå University of Technology, 270 CIV.
- Petra, B. (2005). *Mobile Telephony in Rural India*, Stockholm, Sweden 2005.
- Salwani, M. I., Marthandan, G. et al. (2009). *E-commerce usage and business performance in the Malaysian tourism sector: empirical analysis*. Information Management & Computer Security 17(2): 166-185.
- Schmidt-Belz, B., & Nick, A. (2002). *Personalized and location-based mobile tourism services*, Citeseer. Karlsson, E. *Mobiler guidar turister*, Borås Tidning, 2004-11-14.
- Schmidt, Barbara, Nick, A., Poslad, S., & Zip, A. (2001). *Personalized and Location-based Mobile Tourism Services*, Keywords: mobile users, personalisation, location-based services, adaptivity, service brokerage, agents. Germany: 53754 Sankt Augustin.
- Snepenger, D. J., et al. (1990): *Information search strategies by destination-naive tourists*, Journal of Travel Research, vol. 29, no. 3, pp. 13-16.
- Solomy, S. (1999). *Voting in online Deliberative Assemblies*, June 6-11, 1999, ACM.
- Sheldon, P. J. (1997). *Tourism Information Technology*, CAB International, United Kingdom.
- Sreenivasan, J., & Noor, M. (2010). *A conceptual framework on mobile commerce acceptance and usage among Malaysian consumers: The influence of location, privacy, trust and purchasing power*. WSEAS Transactions on Information Science and Applications, 7(5), pp661-670.
- Stuckman, P., Finck, H., & Bahls, T. (2001). *AWAP traffic model and its appliance for the performance analysis of WAP over GPRS*, in: Proceedings of 3G Wireless '01, San Francisco, CA.

- Thangaraj, M., & Manikandan, S. (2011). *A Survey on Semantic Web Based E-Tourism Dynamic Package* Vol. 2 (2) , 2011, 611-613.
- Tiainen, M., Wigelius, H., & Lönnqvist, A. (2009). *Measuring Mobile Service Innovation: Initiative for sustainable and more equal development*. Third International Conference on Mobile Ubiquitous Computing, Systems, Services and Technologies (p. 10). Tampere, Finland: 978-0-7695-3834-1/09 \$26.00 © 2009 IEEE, DOI 10.1109/UBICOMM.2009.46.
- Tang, M., & Cao, J. (2006). *A Dynamic Mechanism for Handling Mobile Computing Environmental Changes*. ACM International Conference Proceeding Series. Vol.152. Retrieved: June 2009, available from <http://portal.acm.org/citation.cfm?id=1146854>.
- Unicode Consortium. (2000) .*The Unicode Standard, Version 3.0*. Addison-Wesley, Reading, Massachusetts, , ISBN 0-201-616335-5.
- Vaishnavi, V., & Kuechler, B .(2004). *Design Research in Information system: <http://www.isworld.org/IR~searchdesign/drisISworld.htm>*.
- Wired, united and on target. (2011). *A Report on Broadband Growth and Policies in Malaysia*.
- Wang, Y., & Qualls, W. (2007). *A Towards a theoretical model of technology adoption in hospitality organisations*. *International Journal of Hospitality Management* 26(560-573).