M-payment using mobile phone application in University Utara Malaysia

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

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ABSTRACT

Wireless technology has developed into one of today's hottest topics due to its ability to bring the power of communication and the Internet into the hands of users while overcoming temporal and spatial constraints. Students in University Utara Malaysia are facing some of problems in paying their bills and paying their tuition fees. Thus, every time they have to go to Jitra or Alostar to pay for their internet or astero bills. Moreover, for their tuition fees, students have to withdraw money from their bank and then go to pay for their tuition fees. These consume a lot of money and time. In this study, M-payment system helps to make it much easier for student to make their payment and settle their bills and their tuition fees at their convenience by using their wireless devices.

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HTTP	Hypertext Transfer Protocol
ICT	Information and Communications Technology
IDE	Integrated Development Environment
PDA	Personal Digital Assistant
POTS	Plain Old Telephone Service
SMS	Short Message Service
UML	Unified Modelling Language
WAP	Wireless Application Protocol
WML	Wireless Markup Language
WWW	World Wide Web

CHAPTER 1

INTRODUCTION

This chapter briefly explains the background of the study, in which will discuss the utilizing of mobile technology in developing M-payment service to help University Utara Malaysia students to pay their bills and fees. The problem statement, objectives, significance and scope of the study will also be introduced.

1.1 Background of the Study

The wireless technology is the most interesting technology in the ICT industry today, where there is much innovation and research. As technology has been developed through time, advances in telecommunication and computer hardware knowledge have led to the emergence of mobile computing (Chipangura *et al*, 2006). Mobile computing provides instant deployment of service over a large geographical area and offers every user an equalivant service of quality. Information Communication Technologies (ICTs) play a significant role in enhancing rural development in developing countries (Pade et al, 2006). As the popularity of wireless services grows, manufacturers are enabling wireless devices with an increasing array of features and capabilities. However, a new

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Fryer, W. A. (2002). *Wireless computing: New opportunities and challenges in education.* Retrieved August 9, 2008, from http://www.wtvi.com/teks/02_03_articles/wirelessfuture.html

Kalakota, Ravi, & Marcia Robinson (2002), *M-Business: The Race to Mobility, McGraw-Hill*

http://72.14.235.132/search?q=cache:77rL1NUaVJoJ:eprints.usq.edu.au/200/1/APDSI-1-m-business_2005.pdf+robinson+%26+kalakota+2002&cd=4&hl=en&ct=clnk&gl=my

Heijden, M., & Taylor, M. (2000). *Understanding WAP Wireless Applications, Devices and Services*: London: Artech House.

Kemrova, M. (2003). *T-Mobile customer can also shop on the Internet and WAP.* Retrieved August 12, 2008, from http://www.t-Mobile.cz/cms/pr_tz_detail_eng.asp

Kim, J., R. A. Baratto,and J. Nieh. (2006). pTHINC: A ThinClient Architecture for Mobile Wireless Web. *Proceedings of the 15th international conference on World Wide Web WWW '06* 1-10.

McGhee, R., & Kozma, R. (2001). *New teacher and student roles in the technology-supported classroom.* Paper presented at the annual meeting of the American Educational Research Association, Seattle.

McKenzie, J. (2001). *The unwired classroom: Wireless computers come of age. Educational Technology.* Retrieved August 9, 2008, from http://www.fno.org/jan01/wireless.html

McRobb, S., & Farmer, R. (2006). Object-oriented systems analysis and design (3rd ed.). Berkshire: McGrawHill.

Naraine, R. (2002). Opera 7 adds power-browsing in Beta 2. *Internetnews.com.* Retrieved 02 October 2008 from http://www.intemetnews.com/xSP/print.php/1558891

Nielsen, J. (1993). *Usability engineering.*

Pade, C. I., B. Mallinson, D. Sewry. (2006). "*An exploration of the categories associated with ICT project sustainability in rural areas of developing countries: a case study of the Dwesa project. ACM International Conference Proceeding Series;Proceedings of the 2006 annual research conference of the South African institute of computer scientists and information technologists on IT research in developing 204: 100 - 106.*

Qusay H. Mahmoud, (2000) *JavaWorld.com, 06/02/00Develop WAP applications with Java servlets and JSP*
http://www.javaworld.com/javaworld/jw-06-2000/jw-0602-wap.html

Ramsay, M., & Nielsen, J. (2000). *WAP Usability: 2000 All Over Again*: Nielsen Norman Group.

Shaw, M. J. (2000). Building E-Business from Enterprise Systems, *Journal of Information Systems Frontiers* 2(1):7-11.

Vaishnavi & Kuechler (2004). Design Research in information system. Retrieved March 15, 2007, from
http://www.isworld.org/Researchdesign/drisISworld.htm

WAPForum. (2008). *What is WAP*. Retrieved August 10, 2008, from http://www.wapforum.org/faqs/index.htm

Wikipedia. (2008). *Personal Digital Assistant*. Retrieved August 26, 2008, from http://en.wikipedia.org

Wikipedia. (2008). *Mobile Phonest*. Retrieved , from http://en.wikipedia.org/wiki/Mobile_phones

WML Editors. (2003). *A list of some of the WML editors*. Retrieved 12 October 2008 from
http://www.wap-shareware.com/directory/wmleditors.shtml

XML. (2008). *XML*. Retrieved August 10, 2005, from http://en.wikipedia.org/wiki/XML