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INTERACTIVE INTERNET INTER BANK SERVICE SYSTEM FOR SAVING ACCOUNT

A master project submitted to the Graduate School in partial fulfillment of the requirements for the degree of Masters of Science (Information Technology)

Universiti Utara Malaysia

by

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ABSTRACT (BAHASA MALAYSIA)

Projek ini bertujuan untuk membangunkan satu system prototaip bagi sistem perbankan antara bank. Sistem ini membolehkan pelanggan bank menikmati perkhidmatan transaksi antara bank melalui satu halaman web yang tunggal. Transaksi yang dibenarkan dalam sistem prototaip ini meliputi pertanyaan akaun, pemindahan wang dari satu akaun ke akaun yang lain, dan pembayaran bil. Transaksi-transaksi ini hanya boleh dilakukan ke atas akaun simpanan sahaja. Projek ini dibangunkan berdasarkan metodologi Web Page Development Methodology (WPD). Akhir sekali, projek ini membincangkan tentang masalah, kekangan dan cadangan untuk pembangunan masa depan.

ABSTRACT (ENGLISH)

The purpose of this project is to develop a prototype Internet Inter Bank System that allowing customer to perform transactions inter bank through a one stop web site. The transaction services provided by this prototype system include account enquiry, fund transfer and bill payment. The transaction services are applicable for only saving account. This project uses development methodology called Web Page Development Methodology (WPD). Finally, this project discusses some problems, constraints and recommendations for future development.

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CHAPTER ONE

INTRODUCTION

This project is initiated upon the request of course TZ6996 as one of the graduation requirements of MSc (IT). The purpose of this project is to initiate a prototype system on Internet Inter Bank Service System, which performing three types of banking transaction including account enquiry, bill payment and fund transfer

For the purpose of this study, a company and two banks was virtually created. The name of the company is Twin Link Sdn. Bhd. and the two banks are Hong Lee Bank and E-Bank. Twin Link Sdn. Bhd. plays a role as an intermediate agent, allowing user to do transaction either with Hong Lee Bank or E-Bank through its web site.

This chapter gives an overview of banking industry, online banking, some of the popular products and services offered by online banks, and a brief explanation of Internet Inter Bank System. The problem statement, objectives, project scope, hardware and software requirements of this project are discussed.

1.1 Banking Industry

The contents of the thesis is for internal user only

BIBLIOGRAFHY

Balachandher, K.G., Vaithilingam, S., Ismail, N., and Prasad, R. (2000). Electronic Banking In Malaysia: A Note and Evolution of Services and Consumer Reactions. Journal of Internet Banking and Commerce, Vol. 5, No.1, June 2000. Retrieved Apr25, 2001 from the World Wide Web: http://www.arraydev.com/commerce/JIBC/0001-07.htm

Egland, K. L., Frust, K., Nolle, D. E., and Robertson, D. (1998). <u>Banking over the Internet.</u> Quarterly Journal, Vol. 17, No.4, December 1998.

Furst, K., Lang, W. W., and Nolle, D. E. (2000). Who Offers Internet Banking? Quarterly Journal, Vol. 19, No. 2, June 2000. Retrieved April 26, 2001 from the World Wide Web: http://www.occ.treas.gov/special7-6.pdf

Hernandez, L. (2001). <u>Banks rush to become an Internet portal is a rush to give up its customers.</u> Retrieved 23Aug, 2001 from the World Wide Web: http://www.opensolutions.com/insight/lh portal.cfm

Jayawardhena, C. and Foley, P. (2000). <u>Changes in the banking sector – the case of Internet banking in the UK</u>. Internet Research: Electronic Networking Applications and Policy, Vol. 10 Issue 1 Date 2000 ISSN. Retrieved Dec3, 2000 from the World Wide Web: http://www.emerald-library.com/brev/17210ab1.htm

Modlock, S. (2001). Online banking: Aggregation or aggravation? Retrieved Aug20, 2001 from the World Wide Web: http://www.iii.co.uk/onlinebanking/?type=news

Muhamad bin Ali. (1998). MBA Web Page Development methodology. Retrieved Aug 29, 2001 from the World Wide Web: http://www.perjasa.org.my/mba/wpd0.htm

Nixon, B. and Dixon, M. (2000). <u>Sams teach yourself today-Banking:</u> managing your money and transactions online. United States of America: Sams.

Pang, J. (1995). Banking & Finance - Malaysia. Malaysia: Times.

Sisco, F. (2000). <u>Simplifying Your Financial Life Using Account-Aggregation</u>. Retrieved Aug21, 2001 from the World Wide Web: http://www.thirdthousand.com/Article-Account-Aggregation.html

Suganthi, Balachandher and Balachndran. (2001). <u>Internet Banking Patronage: An Empirical Investigation of Malaysia.</u> Retrieved April25, 2001 from the World Wide Web: http://www.arraydev.com/commerce/jibc/0103-01.htm

Tan, C. Yap, R. (2000). <u>Internet banking gains ground.</u> Retrieved Nov29, 2000 from the World Wide Web: http://www.pwcinternal.com.ro/extweb/indissue.nsf/docid/62351B4A33197 DC585256959000D2DFD

Internet Banking Sites Focus On Customer Service. Retrieved 23Aug, 2001 from the World Wide Web: http://microbanker.com/books/banksites2000.html

2000 by T.A. Consultants Ltd. Internet Banking. Retrieved Aug29, 2001 from the World Wide Web: http://www.tahk.com/ibanking.asp

Online Banking. Retrieved December 29, 2000 from the World Wide Web: http://www.personal.kent.edu/~mgangada/course/termpap.html

Online Banking — Guide. Retrieved August 21, 2001 from the World Wide Web:http://www.iii.co.uk/onlinebanking/?type=knowledge§ion_id=265 80&id=26581&sub=

What is Online Banking? Retrieved December 13, 2000 from the World Wide Web: http://www.channel2000.com/onlinebanking/what is ob.html