WEB-BASE POINT OF SALE APPLICATION

FOR SEGARMART

TAREQ MOHAMMAED IBRAHIM ALHINDI

UNIVERSITI UTARA MALAYSIA

2008

Web-base Point of Sale Application For Segarmart

A thesis submitted to the Graduate School in partial fulfillment of the requirements for the degree Master of Science (Information & communication Technology)
Universiti Utara Malaysia

By

Tareq Mohammaed Ibrahim Alhindi

(88405)

KOLEJ SASTERA DAN SAINS
(College of Arts and Sciences)
Universiti Utara Malaysia

PERAKUAN KERJA KERTAS PROJEK
(Certificate of Project Paper)

Saya, yang bertandatangan, memperakukan bahawa
(I, the undersigned, certify that)

TAREQ MOHAMMAED IBRAHIM ALHINDI

calon untuk Ijazah
(candidate for the degree of) **MSc. (ICT)**

telah mengemukakan kertas projek yang bertajuk
(has presented his/her project paper of the following title)

WEB-BASED POINT OF SALE APPLICATION FOR SEGAR MART

seperti yang tercatat di muka surat tajuk dan kulit kertas projek
(as it appears on the title page and front cover of project paper)

bahawa kertas projek tersebut boleh diterima dari segi bentuk serta kandungan dan meliputi bidang ilmu dengan memuaskan.
(that the project paper acceptable in form and content, and that a satisfactory knowledge of the field is covered by the project paper).

Nama Penyelia Utama
(Name of Main Supervisor): **ASSOC. PROF. DR. WAN ROZAINI SHEIK OSMAN**

Tandatangan
(Signature) : Rozaini

Tarikh
(Date) : 4/6/08

PERMISSION TO USE

In presenting this thesis in partial fulfillment of the requirements for a postgraduate degree from Universiti Utara Malaysia, I agree that the University Library may make it freely available for inspection. I further agree that permission for copying of this thesis in any manner, in whole or in part, for scholarly purpose may be granted by my supervisor(s) or, in their absence by the Dean of Faculty of Information Technology. It is understood that any copying or publication or use of this thesis or parts thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to Universiti Utara Malaysia for any scholarly use which may be made of any material from my thesis.

Requests for permission to copy or to make other use of materials in this thesis, in whole or in part, should be addressed to

Dean of Faculty of Information Technology

Universiti Utara Malaysia

06010 UUM Sintok

Kedah Darul Aman.

ABSTRACT

With Web -base and point of sale application services can be easily in any way. Consumer point-of-sale (POS) applications include those applications that consumers encounter directly or indirectly at the point of sale. Examples include terminals used by cashiers, ATM machines, and in-store kiosks.

This research introduces a prototype" Web-base Point of sale selection application prototype" that provides the cashier inside the Segarmart, to use the system for make calculate for fruits, so the system can save the time and effort.

ACKNOWLEDGEMENTS

I would like to say thanks to every one who had helped me. First, I would like to thank Assoc. Prof. Dr. Wan Rozaini bt Sheik Osman for advice and supervision during preparation of this project. Also. Thank you to my appreciation to my evaluator, Mr Abdul Razak Rahmat.

Above all, I would like to thank my father, mother, my sisters, my brother, and all my family members for their encouragement and support during my studies.

Furthermore I would like to thank my friend (Hossam Faiq, Ahmed Al-sa'di, Yousef Hazaimeh, Saed Adnan, ayman alkhaldi , ahmad shahrooj), and others (Asti, Pacharawadee (Fon), Faizah, Piyamat (Meam), and Fuziah) for their kindness and support. Thank you to all the lecturers at the Applied Science Field, College of Arts and Sciences, formerly known as the Faculty of Information Technology, because they gave me all the knowledge and information that helped me to finish my work properly.

Table of Contents

PERMISSION TO USE.....i

ABSTRACT.....ii

ACKNOWLEDGEMENTS.....iii

1.0 INTRODUCTION.....1

1.1 Problem.....2

1.2 Objectives.....3

1.3 Scope and Limitation of the Study.....4

1.4 Significance of the Study.....5

1.5 Organization of the Research.....5

1.6 Summary.....6

2.0 LITERATURE REVIEW.....7

2.1 Introduction.....7

2.2 What is Web Application?.....7

2.3 Requirements Analysis.....8

2.3.1 Web-based Develop the Prototype.....9

2.3.2 Why is Requirements Analysis Necessary?.....10

2.4 Features of Web-based Application.....11

2.5 What is Web Application Architecture?.....11

2.6 Sales Marketing Definition.....12

2.7 Data Entry.....12

2.8 Design Web-Based Application.....13

2.9 Database System.....14

2.10 Web-based Concept and Definition.....15

2.11 Origin of Web.....16
2.12 Basic Web Architecture.....16
2.13 Web-based Application.....18
2.14 WEB Database Application.....18
2.15 Application & Tools Used to Build A Web.....19
2.15.1 Hyper Text Markup Language (HTML).....19
2.15.2 HyperText Transfer Protocol (HTTP).....19
2.15.3 MySQL.....20
2.15.4 PHP Scripting Language.....20
2.15.5 Apache Web Server 21
2.15.6 Web-Base Information System.....21
2.16 Previous Studies and Related Work.....22
2.17 Definition of POS.....23
2.18 Point of Sale or Point of Service (POS OR POS).....23
2.19 Point of Sale Systems.....23
2.20 Western Australian Food Monitoring Program (WAFMP).....26

3.0 METHODOLOGY.....27
3.1 Introduction 27
3.2 Research Design Methodology.....27
3.2.1 Awareness of Problem.....28
3.2.2 Suggestion.....29
3.2.3 Development.....29
3.2.4 Evaluation.....30
3.2.5 Conclusion.....30
3.3 Systems Development Life Cycle Method.....30
3.4 Prototypes.....32
3.5 Summary.....35

4.0 FINDINGS AND RESULTS.....36
4.1 Introduction.....36

4.2 Current Situation.....37

4.3 Use Case Diagram.....40

4.4 What is a Use Case?.....41

4.5 Use Case Specification 45

4.6 Sequence Diagram 54

4.7 Class Diagram.....58

4.8 Result 59

4.9 Conclusion of the Study.....59

5.0 CONCLUSION.....60

5.1 Conclusion of the Study.....60

5.2 Study Contribution.....60

5.3 Future Works.....61

Reference 62

Appendices 67

List of Figures

Figure 1: Shows point of sale (POS) for Fruits Inside the Minimarket.....3

Figure 2: Steps by Cashier to Server.....4

Figure 3: The General Methodology of Design Research.....28

Figure 4: This figure Shows the Steps for Cashier.....29

Figure: 5 Systems Development Life Cycle Method.....33

Figure 6: Shows main Use Case.....42

Figure 7: Shows the main use Case details.....44

Figure 8: Show Sequence Diagram.....54

List of picture

Picture 1: Shows the Segarmart Mall.....2

CHAPTER 1

INTRODUCTION

1.1 Introduction

Consumer point-of-sale (POS) applications include those applications that consumers encounter directly or indirectly at the point of sale. Examples include terminals used by cashiers, ATM machines, and in-store kiosks.

These applications collect data at remote sites and transmit it back to a central location, such as headquarters or a data center. It is common in these applications for data to be collected primarily at the point of sale and subsequently uploaded to headquarters without conflict, because a single remote user (typically a customer or sales clerk) is updating a given piece of data. The Industrial PC market segment offers a number of computing solutions that enable the development of advanced Point of Sale (POS) equipment, automation equipment used in manufacturing, and inventory control solutions that monitor the warehousing of goods.

Web-based point-of-sale (POS) software applications are programmed to interact intelligently with users to provide lenders with a unique opportunity to reengineer their businesses. The creation of electronic loan systems in the 1980's has provided lenders with a greater opportunity to reinvent mortgage loan distribution, and in the process, generate additional revenue, increase productivity, improve customer service, and reduce costs.

The contents of the thesis is for internal user only

References

Azwina M. Yusof, Chor Sai Kan, (January 2004,) "An Electronic Commerce based Decision Support System for Distributed Retail Chain Stores", WSEAS Transactions on Communications, Issue 1, Volume 3. Retrieved 10 February, 2008.

Branch Personnel, the Evolving Usage of Web-Based, Point-of-Sale Systems, (2006) Retrieved 28 January, 2008 from https://powermanager.mortgagewebcenter.com/Resources/Docs/Public/BusinessCase/EvolvingOnlineUsage.pdf

Baxley, B. (2003). What is a Web Application? Boxes and Arrows. Retrieved 26 January, 2008 from http://www.boxesandarrows.com/archives/what_is_a_web_application.php

Branch Personnel, (2006), the Evolving Usage of Web-Based Point-of-Sale Systems. Retrieved 15 February, 2008 from https://powermanager.mortgagewebcenter.com/Resources/Docs/Public/BusinessCase/EvolvingOnlineUsage.pdf

Bemer, S. (2003) About the Development of a Point of Sale System: an Experience Report .Retrieved 12 February, 2008 from http://ieeexplore.ieee.org/Xplore/login.jsp?url=/iel5/8548/27042/01201232.pdf?arnumber=1201232

Biener L, Siegel M, (2000), Application for variation to the number of points of sale of tobacco products. Retrieved 20 February, 2008 from http://www.otru.org/pdf/updates/update_nov2005.pdf

Bemer, S, About the Development of a Point of Sale System: an Experience Report.
Chanin, M and Boonchai, S, Web-Based Application on Embedded System, 0-7803-8560-8/04/$20.00©2004IEEE. Retrieved 25 February, 2008 from http://ieeexplore.ieee.org/Xplore/login.jsp?url=/iel5/9709/30648/01414705.pdf?arnumber=1414705

Chandrinos, K. V, Trahanias, P.E. (1997), Beyond HTML: Web-Based Information Systems. . Retrieved 18 February, 2008 from http://www.ercim.org/publication/ws-proceedings/DELOS6/chandrinos.pdf

Cumby,C, Fano,A, Ghani,R Accenture Technology Labs, (2004) Predicting Customer Shopping Lists from Point of Sale Purchase Data. Retrieved 5 March, 2008 from http://labs.accenture.com/papers/shopping.pdf

Chia kim hoek, (2004), Database System. Retrieved 10 March, 2008 from http://adp.mmu.edu.my/e-notes/adie/database/aboutcourse.html

Delaware Government Information Center, State of Delaware Department of Technology and Information. Retrieved 13 March, 2008 from http://www.state.de.us/dti/pdfs/Architetural%20Standards%20for%20e-Government.pdf

Dr. Neal Krawetz (2006-2007) Point-of-Sale Vulnerabilities. Retrieved 17 March, 2008 from

http://www.hackerfactor.com/papers/cc-pos-20.pdf

Federal Enterprise Records Management Profile, Sections 4.1.1 through 4.1.6; Systems Development Life Cycle Checklists. Retrieved 21 March, 2008 from http://www.archives.gov/records-mgmt/initiatives/sdlc-checklist.pdf

Gusciora.Ultimate Technology Corporation Victor, (1998) the use of halt to Improve computer reliability for Point-of-Sale equipment. Hendry, (1990), Database Design Retrieved 25 March, 2008 from http://faculty.washington.edu/dhendry/portfolio/insc540.pdf

Jeff Tian, Li ma Zhaoli, (2003) A Hierarchical Strategy for Testing Web-Based Applications and Ensuring Their Reliability, Proceedings of the 27th Annual International Computer Software and Applications Conference (COMPSAC'03) 0730-3157/03 $ 17.00 © 2003 IEEE. Retrieved 29 March, 2008.

Johnson Dehinbo, (2004), the Impact of Web-Based Middleware Systems. Retrieved 29 March, 2008 from
http://proceedings.informingscience.org/InSITE2004/027dehin.pdf

Kushmerich, (2000), Previous Studies and Related Work Retrieved 29 March, 2008 from.
http://ajpregu.physiology.org/cgi/reprint/277/2/R434.pdf

Kolšek, M. (2004), Session Fixation Vulnerability in Web-based Applications. Retrieved 18 February, 2008 from
http://www.acros.si/papers/session_fixation.pdf

Murphey, L. (2004), Secure Web-Based Authentication,
http://lukemurphey.net/Whitepapers/Secure%20Authentication%20Systems.pdf

Mehr.R, Design studio inc. disclaimer, Website is powered by Jo, (2008). Retrieved 29 March, 2008 from
http://www.rmdstudio.com/consulting/web-application-architecture.html

Malan, R, and Bredemeyer. D. (2001). Functional Requirements and Use Cases Retrieved February 14, 2008 from
http://www.bredemeyer.com/pdf_files/functreq.pdf

Phillip J. Windley. (2003). Enabling Web Services. Retrieved February 14, 2008 from
http://www.windley.com

Ramamurthy, B. Design and Development of a Push-based Point of Sale System (PUPS)(2006).
http://www.cse.buffalo.edu/gridforce/spring2005/porject1PUPS.pdf

Resilient Solutions Company Limited, W. Hing Street, (2006) Causeway. Retrieved 22 March, 2008 from
http://resilient-solutions.com/files/RS_Ent_Portal_2006.pdf

Software configuration management plan for Database Application, Digital publications LLC. All write reserved, (2000-2005). Retrieved 5 March, 2008 from http://www.shellmethod.com/refs/SCMP.pdf

Steve Cook, (2006), Point-of-Sale Systems (POS). Retrieved 2 April, 2008 from http://ts.nist.gov/WeightsAndMeasures/upload/A-022.pdf

Tognazzini, B (Norman, 2000), Design Web-Based Application. Retrieved 12 April, 2008 from http://www.humanfactors.uiuc.edu/Reports&PapersPDFs/humfac01/wroblewskirantanenhf01.pdf

Tognazzini.B, and Nail, Berst, Jeff Tian, Design Web-Based Application, 2000. Retrieved 12 April, 2008.

Tian, J (2003) Design Web-Based Application. Retrieved 2 March, 2008 from http://engr.smu.edu/~tian/home/webQA.html

University of Toronto Department of Computer Science (2001). Retrieved 5 April, 2008 from http://www.cs.toronto.edu/~sme/CSC444F/slides/L14-RequirementsAnalysis.pdf

Vaishnavi & Kuechler. (2007). Design Research in information system. Retrieved January 28, 2008 from http://www.isworld.org/Researchdesign/drisISworld.htm

Volker Tumuk, (2002), a framework for automatic generation of web-based dataEntry applications based on XML. Retrieved 7 April, 2008.

Ventuneac, M. A policy Based Security framework for Web-Enabled Applications. Retrieved 2 April, 2008.

Van der, F, Decat MM (2007), The European market of fruits and pears, some general considerations. Retrieved 20 April, 2008 from http://www.mindconstruct.be/bijlagen/Pears%20in%20Europe.pdf

Western Australian Food Monitoring Program (WAFMP), (2005) to establish data on the microbiological quality of a range of raw fruit and vegetables, retail outlets 2. Retrieved 17 April, 2008 from http://www.health.wa.gov.au/publications/documents/WAFMP%20Technical%20report_Microbiological%20quality%20of%20Fruit%20&%20Veg_Final%20version%2060511.pdf

Wiley, J and Willy, S. (1999) Class Selling: The Crossroads of Customer, Sales, Marketing and Technology Published. Retrieved 5 April, 2008.

Web based system, Florida Department of Transportation November (2005). Retrieved 17 March, 2008 from http://www.dot.state.fl.us/transit/Pages/TransitResourceGuide.PDF

Yang, H and XUE, D, (2003) recent research on developing Web-based manufacturing systems: a review. Retrieved 5 April, 2008 from http://www.enme.ucalgary.ca/~xue/journal/IJPR03.pdf

Ying, Z and Kostas A. K, (1999), Web-based Legacy System Migration and Integration. Retrieved 2 May, 2008 from http://www.swen.uwaterloo.ca/~kostas/publications/conferences/C5-2000.pdf