DEVELOPING MOBILE APPLICATION FOR PARLIAMENT ELECTION PROCESS IN JORDAN

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ABSTRACT

The long-term vision for E-Government is to create a society where electronic government is a contributor to the electronic and social development of Jordan. The E-Government will empower and benefit all the in society through access to government information, public-private partnerships and improved public services, communications and transactions with the government (Hussein, 2006). However, dynamic development of the Information Communication and Technology (ICT) makes the life different and creates new businesses, and rapid changes. Moreover, by utilizing the ICT, countries around the world are constructing the e-government to change their national administrative methods and to achieve efficiency. One of services that the government provides to its citizens through the construction of the e-government is e-election system. The e-Election is a system used to enhance the efficiency for voting process by automating the current manual voting process skilful with electronic devices. Moreover, introducing the e-Election system will support efficiency in voting by reducing time required for ballot counting and numbering errors, and advancing democracy by encouraging more citizens to vote. In addition, as the cost for voting will be reduced through the use of digital devices, accordingly, the voting system can be more widely used in the decision making process.

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TABLE OF CONTENTS

1

1

INTRODUCTION	1
1.1.INTRODUCTION	1
1.2.PROBLEM STATEMENT	2
1.3 RESEARCH QUESTIONS	4
1.4.RESEARCH OBJECTIVE	4
1.5.SCOPE OF THE STUDY	4
1.6.SIGNIFICANCE OF THE STUDY	5
1.7. ORGANIZATION OF THE REPORT	5
LITERATURE REVIEW	7
2.1. GOVERNMENT AND POLITICS	8
2.2 E-GOVERNMENT	14
2.3 E-GOVERNMENT IN JORDAN	15
2.4 TECHNOLOGY AND MOBILE PHONE	18
2.5 MOBILE PHONE IN JORDAN	19
2.5 WHAT IS WAP?	20
2.6 HISTORY OF WAP	21
2.7 WHY WAP?	22
2.8 USING WAP	24
2.9 RAPID APPLICATION DEVELOPMENT METHODOLOGY	25
2.10 USABILITY TESTING	26
RESEARCH METHODOLOGY	28
3.1.INTRODUCTION	29
3.2 AWARENESS OF PROBLEM	30
3.3 SUGGESTION	31
3.4 DEVELOPMENT	33
3.5 EVALUATION	36
3.6 SUMMARY	36
FINDINGS	38
4.1.INTRODUCTION	39
4.2.System Requirements	39
4.3.System Design	40
4.4 DEVELOPMENT TOOLS	49

4.5 DATABASE DESIGN
SYSTEM EVALUATION 66
5.1.INTRODUCTION67
5.2.EVALUATION TECHNIQUES 67
5.3 CONSTRAINTS AND PURPOSE 68
5.4.TESTING AND RESULTS 68
5.5.RECOMMENDATIONS AND REMARKS 69
5.6.EVALUATION 70
CONCLUSION AND RECOMMEDATION71
6.1 PROBLEMS AND LIMITATIONS 72
6.2 FUTURE DEVELOPMENT CONSIDERATIONS72
6.3 CONCLUSION 73
REFERNCES74

APPENDICES

1

1

1

8

APPENDIX A: Questionnaire

LIST OF FIGURES

I

FIGURE 2-1 WIRELESS APPLICATION PROTOCOL LAYERS 17
FIGURE 3-1 THE GENERAL METHODOLOGY OF DESIGN RESEARCH 27
FIGURE 4-1: MAIN USE CASE 40
FIGURE 4-2: SEQUENCE DIAGRAM FOR LOGIN PAGE 41
FIGURE 4-3: SEQUENCE DIAGRAM FOR ELECTION PROCESS PAGE 42
FIGURE 4-4: SEQUENCE DIAGRAM FOR ELECTION WOMAN QUOTA PAGE 43
FIGURE 4-5: SEQUENCE DIAGRAM FOR SEARCH PAGE44
FIGURE 4-6 SYSTEM ARCHITECTURE 46
FIGURE 4-7 MICROSOFT MOBILE INTERFACE47
FIGURE 4-8 OPENWAVE INTERFACE 48
FIGURE (4-9)-(4-39) PREVIEW PROTOTYPE 49
FIGURE 4-40 DATABASE DESIGN 63
FIGURE 2-1: USABILITY EVALUATION 67

LIST OF TABLES

1

l

TABLE 1-1 THE MINISTRY OF INTERIOR, 2007	- 3
TABLE 4-1 REQUIREMENT DESCRIPTION	39
TABLE 4-2 USE CASE DESCRIPTION	40

CHAPTER 1 INTRODUCTION

1.1 Introduction

An election is a decision making process where people choose people to hold official offices. This is the usual mechanism by which modern democracy fills offices in the legislature, and sometimes in the executive and judiciary, and in regional and local government (wikipedia, 2007). This concept had been known through ancient and contemporary ages. In 19th century a lot of countries such as Britain, USA, France....etc, have carried out this performance to interact with the most of society levels (Fred, 1985).

In other words, this democratic approach shows the closed relationship between the concepts of citizenship and the election as one of the most important features of a democratic system.

Offer all; this process is a hand that let citizen to participate in making decisions, cooperate in developing the country, and build the truth transparency between the ruler and citizens, and other collaborative and controverter connections (Library of Congress – Federal Research Division, 2006).

The contents of the thesis is for internal user only

REFERENCES

- Aaron, M. (2002), Return on Investment for Usable User-Interface Design: Examples and Statistics. Experience Intelligent Design. Retrieved 28 February 2002.
- Al-Mukaddim, K. P., Md, A. M., & Minhaz, F. Z. (2006). An Internet Framework to Bring Coherence between WAP and HTTP Ensuring Better Mobile Internet Security.
 Department of Computer Science and Information Technology, Islamic University of Technology, Bangladesh. Department of Mathematics and Computer Science, University of Lethbridge, Alberta, Canada.
- Al-Urdun, al-Jadid. (1995). A Discussion of Jordan's 1993 Parliamentary Election.Amman. Amman, Jordan: Al-Urdun al-Jadid, 32, 100-129.
- Appelquist, D. (2006). Senior Technology Strategist. The American Physical Society. Received 7 August 2006; published 5 October 2006.
- Cannataro, M., Cuzzocrea, A. & Pugliese, A. (2002). An adaptive web-based system for learning programming, Inderscience Enterprises Limited. Volume 16, Number 1-2 / 2006, 122 – 136.

CASEMaker. (2000). What is Rapid Application Development? CASEMaker Inc.

- Capabilities, IBM Business Consulting Services. Retrieved July 7, 2007, from www.IBMGlobalServices.com.
- Ceska,T., Kuhlins, S., & Nösekabel, H. (2006). Of Wireless Usability with a Java Software Agent. ACTA Press. Retrieved August 13, 2007, form http://www.actapress.com/Content_Of_Proceeding.aspx?ProceedingID=234.

- Choi, B., & Lee, H. (2003). E-government Roadmap. *Information & Management*, vol. 40, no. 5, pp. 403-417.
- Christian, K., Angraini, Y., Chen, J., & Günter, H. (2007). Mobile Commerce Applications in Second and Third Generation Mobile Networks: Potentials and Strategies of Austrian Mobile Communication Providers. *Department for Distributed Systems, Institute for Computer Science and Business Informatics, University of Vienna, Austria.*
- Daniel, B. (2004). Network effects in mobile telecommunications: An empirical analysis. JEL classification: D12, L96, M31.
- Dennis, G. (2000). Usability Testing, What is it?. Retrieved 2000, form http://jerz.setonhill.edu/design/usability/intro.htm
- Diego, D. (2005). Information technology for development, Vol. 11 (2) 141 159. Retrieved August 18, 2007, from www. Interscience.wiley.com. published online in Wiley inter Science.
- Dong, P. (1998). Collaborative Virtual Environment for Feature Based Modeling. Proceedings of the 2004 ACM SIGGRAPH international conference on Virtual Reality continuum and its applications in industry. Retrieved June 16 - 18, 2004, form http://portal.acm.org/citation.cfm?id=1044588.1044610.
- Doumont, J.-L. (2003). Magical Numbers: The seven-plus-or-minus-two myth. *IEEE Transactions on Professional Communication*, 45 (2), 123-127.

Election. (2007). Retrieved 7 November 2007, form http://en.wikipedia.org/wiki/Election.

- Farmer, M., & Roy, S. (2006). British Institute of Technology & E-commerce. BITE e-Gov Blueprint.
- Forum. (2002). Wireless Application Protocol WAP 2.0 Technical White Paper. Retrieved January, 2002, form www.wapforum.org.

Fundamentos. (2006). Advancing its goal to make browsing the Web from mobile devices. "Mobile Internet", a main topic for the Fundamentos Web 2006 conference. Retrieved Sep 13, 2006, form

http://www.fundamentosweb.org/2006/Prensa/notaprensa.html.en/Internet/Movil/sera.

- Glyn, J. (2006). Which methodology. *Newebia Ltd.* Retrieved 2006, form <u>http://www.newebia.co.uk/articles/which-methodology.html</u>.
- Government gets Italian, UNDP support to use e-accounting, e-procurement applications. (2005). Retrieved November 9, 2007, form http://www.egov.vic.gov.au/.
- Government Program dialogues with the private sector share successes and challenges with local firms. Retrieved October 07, 2003, from http://www.ameinfo.com/29150.html.
- Hussein, Al-O. (2006). E-Government Architecture In Jordan: A Comparative Analysis. Journal of Computer Science 2 (11), 846-852.
- James, R. L. (1995). IBM Computer Usability Satisfaction Questionnaires: Psychometric Evaluation and Instructions for Use. IBM Corporation.
- Jordanian Government completes pilot electronic tendering and procurement project with Tejari. (2003). Retrieved November 9, 2007, form http://www.egov.vic.gov.au/.

- Jordan Telecom launches e-payment gateway. (2003). Retrieved November 9, 2007, form http://www.egov.vic.gov.au/.
- Khaldoun, N. (2005). Jordan e-Government Program. Ministry information and communication technology.
- Kopomaa, T. (2003). Use of the mobile phone among senior citizens: telecommunication in and out of the home. Publication by Centre of Expertise on Social Welfare in Southern Finland, Retrieved April 2004, from http://www.eso.fi/julkaisut/julkaisut/kannykkaartikkeli.rtf.
- Kothari, C. R. (1985). Research Methodology Methods and Techniques. Delhi: Wiley Eastern Limited. pp 400-408.
- Latif, Al-H. (2007). Web Mobile-Based Applications for Healthcare Management. *IRM Press*. Publisher of innovative IT titles in the cyberage, January 2007.
- Learn about Usability Testing. (2005). Retrieved form http://www.usability.gov/refine/learnusa.html.
- Mehran, S., Jie, H., & Ali, M. (2002). Global Telecommunications Conference, 2002. IEEE.
 Publication 17-21 Nov, 2002, Volume: 2, On page(s): I- xliv.
- Michael,B., & Roderic, D. (2003). e-Government, e-Society and Jordan. Retrieved 2003, form http://www.firstmonday.org/issues/issue8_11/blakemore/index.html#author
 Ministry of ICT re-launches website. (2003). Retrieved November 9, 2007, form http://www.egov.vic.gov.au/.

- Nielsen, J. (2000). Why You Only Need to Test with 5 Users. Retrieved 2000, form http://www.useit.com/alertbox/20000319.html.
- Oksman, V. (2006). Young People and Seniors in Finnish 'Mobile Information Society'. Journal of Interactive Media in Education, 2006/02. ISSN:1365-893X.
- Panayiotis, Z., Aspasia, D., Dean, M. (2004). User Needs Analysis and Evaluation of Portals. Centre for HCI Design City University, London, ECIV 0HB, UK.
- Pathan. (2006). An Internet Framework to Bring Coherence between WAP and HTTP. *IEEE*, Retrieved form ieeexplore.ieee.org/iel5/10826/34120/01625560.pdf.
- Simon, D. (2007). GLOBAL MUSIC FORECASTS. INFORMATELECOMS&ME DIA.

The Ministry of Interior. (2007). Retrieved July 28, 2007, form http://www.moi.gov.jo.

- User Agent Profile OMA-TS-UAProf-V2_0-20060206-A, Open Mobile Alliance. (2006). Retrieved July 7, 2007, from http://ieeexplore.ieee.org/iel5/9777/30843/01429941.pdf.
- Vaishnavi & Kuechler. (2006). Vision Media & Design Academy, Design Research. Experience Design. Retrieved September 19, 2006.
- Website to ease investor procedures official. (2002). Retrieved November 9, 2007, form http://www.egov.vic.gov.au/.