ONLINE QUESTIONNAIRE DATA ANALYSIS SYSTEM

(OQDAS)

ABDULRAZZAQ QASEM ALI

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

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Nama Penyelia Utama:
(Main Supervisor) : **MR. ADIB M. MONZER HABBAL**

Tandatangan
(Signature) : ADIB M. MONZER HABBAL Penyelia 1 Pusat Pengajian Pengkomputeran UUM College of Arts and Sciences Universiti Utara Malaysia Tarikh (Date) : 29/1/2012

Nama Penyelia Kedua:
(Co-Supervisor) : **MR. FAISAL ZULHUMADI**

Tandatangan
(Signature) : FAISAL ZULHUMADI Lecturer UUM College of Business Universiti Utara Malaysia Tarikh (Date) : 29/1/2012

Nama Penilai
(Name of Evaluator) : **MISS. ANIZA MOHAMED DIN**

Tandatangan
(Signature) : _____ Tarikh (Date) : 29/1/2012

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Dean of Awang Hag Salleh Graduate School College of Art and Sciences

University Utara Malaysia

06010 UUM Sintok

Kedah Darul Aman

ABSTRACT

The aim of this project is to develop an Online Questionnaire Data Analysis System (OQDAS) for researchers in University Utara Malaysia. This system enables research questionnaires to be deployed via a web page and provide a great source of information to all UUM researchers. By developing this project, it helps the researcher to perform survey easily, cost-effectively, and time shortly. In addition, analytical results reported in PDF file automatically. As well, a prototyping as a part of the traditional SDLC approach will be chosen as a guide to develop OQDAS.

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CHAPTER ONE
INTRODUCTION

1.1. INTRODUCTION

Educational institutions and universities employ scientific research as one of the means and tools to access data, information, knowledge and theories that are used to explain and understand social phenomena. Researchers have considered two approaches in gathering information for the purposes of research and study: Quantitative Approach and Qualitative Approach (McBurney & White, 2009).

As reported by Roztocki and Lahri (2003), a questionnaire is the most widely used quantitative research method. Survey questionnaires consist of a set of questions that are related to each other in ways that help to achieve research's goal. Paper based questionnaire has always had the disadvantages such as the number of potential participants is limited, questionnaire distribution is slower and much more.

According to Singh, Taneja, and Mangalaraj (2009), online questionnaire is becoming a great replacement to traditional paper and mail-based questionnaires to collect data for questionnaire research. Online questionnaires are used to compensate for serious inherited disadvantages of traditional formats, where the Web provides an opportunity to compensate for the deficiency of slow distribution, return time and other disadvantages of traditional format (Pargas, Witte, Brand, Hochrine, & Staton, 2003).

Aside from the variety of aspects, Data analysis is a process in which collected data is organized so that meaningful information can be discovered from it. Organizing data is the fundamental process of understanding what the data is about and what the data does or does not. People can analyze the data in different ways, and manipulating data during the analysis stage is not easy at all, as it may lead to certain conclusions. For this reason, it is essential to be careful when analyzing the data, and to think deeply about the data and the outputs which were extracted.

The contents of the thesis is for internal user only

7. REFERENCES

Conallen, J. (2003*). Building Web Applications with UML*, (2nd ed.), Addison Wesley.

Connnolly, T. & Begg, C. (2004). Database Solutions: A step By Step Guid to Building Database (2nd ed.). United States of America: Addison Wesley.

Croteau, A., Dyer, L., & Miguel, M. Employee Reactions to Paper and Electronic Surveys: An Experimental Comparison. *Professional Communication, IEEE Transactions on, 53*(3), 249-259.

Fitzgerald J. & Ardra F. (1981), Fundamentals of System Analysis, United States of America: FitzGerald.

Downing, J. R., & Clark, R. S. (2007). Using Electronic Surveys in Organizational/Employee Communication Research: A Study at GE's Global Research Center. *Professional Communication, IEEE Transactions on, 50*(3), 249-262.

Gal, A., & Mylopoulos, J. Toward Web-based application management systems. *Knowledge and Data Engineering, IEEE Transactions on, 13*(4), 683-702.

Gangshu. (2005).*Ideological and Political Education Statistics Research Methodology*, People's Publishing House.

Haunberger, S. (2011). Explaining Unit Nonresponse in Online Panel Surveys: An Application of the Extended Theory of Planned Behavior1. *Journal of Applied Social Psychology, 41*(12), 2999-3025.

Keeling, K. B., & Pavur, R. J. (2004, 5-8 Dec. 2004). *Numerical accuracy issues in using Excel for simulation studies.* Paper presented at the Simulation Conference, 2004. Proceedings of the 2004 Winter Simulation Conference, 2004. Proceedings of the 2004 Winter VO- 2.

Kendall, K. E. (2008). *Systems analysis and design* (7th ed.). Upper Saddle River: Pearson/Prentice Hall.

King, N. (2005). *WebSurveyor.* Retrieved 25-09-2011, 2011, from http://www.pcmag.com/article2/0,2817,1753489,00.asp#fbid=yv5UkeHwjN-

Kling, A. (1994). *The economic consequences of the World Wide Web.* Paper presented at the second World Wide Web Conference: Mosaic and the Web, Geneva, Switzerland

Knusel, L. 2004. *On the accuracy of statistical distributions in Microsoft Excel 2003.* Computational Statistics and Data Analysis: To Appear.

Kossiakoff, A., Sweet, W. N., Seymour, S. J., & Biemer, S. M. (2011). Software Systems Engineering. In *Systems Engineering Principles and Practice* (pp. 355-407): John Wiley & Sons, Inc.

Lewis-Beck, M. S. (1995). *Data analysis: an introduction*: Sage Publications.

Li, Y., & Cao, W. (29, 29-30 Oct. 2010). *Application of SPSS in the ideological and political education.* Paper presented at the Artificial Intelligence and Education (ICAIE), 2010 International Conference on Artificial Intelligence and Education (ICAIE), 2010 International Conference on VO -.

Macer, T. (2009). *Software reviews from meaning Key Survey reviewed.* Retrieved 09-26-2011, 2011, from http://www.meaning.uk.com/software-reviews/2009-reviews/key-survey/

McBurney, D. H., & White, T. L. (2009). *Research Methods*: Cengage Learning.

McCullough, B. D. and B. Wilson. 2002. *on the accuracy of statistical procedures in Microsoft Excel 2000 and Excel XP.* Computational Statistics and Data Analysis 40: 713-721.

Murach., J., & Steelman., A. (2004). *Murach's Java Servlets and JSP* (2nd ed.). States of America: Mike Murach & Associates, Inc.

Musterman, J. (2007, November 17, 2007). *Market analysis of SPSS.* Retrieved 22-09-2011, 2011, from http://www.helium.com/items/703271-market-analysis-of-spss

Murugesan, S. and Ginige, A. (2005), *Web engineering: introduction and perspectives, Web-Engineering: Principles and Techniques*, Hershey: Idea Group Publishing.

Nauck, D.D., Spott, M., & Azvine, B.. (2004, 28-30 March 2004). *Fuzzy methods for automated intelligent data analysis.* Fuzzy Systems, 2004. Proceedings. 2004 IEEE International Conference on Fuzzy Systems.

Norman, A. T., & Russell, C. A. (2006). The Pass-Along Effect: Investigating Word-of-Mouth Effects on Online Survey Procedures. *Journal of Computer-Mediated Communication, 11*(4), 1085-1103.

Pargas, R. P., Witte, J. C., Brand, L., Hochrine, C., & Staton, M. (2003, 28-30 April 2003). *OnQ: an authoring tool for dynamic online surveys.* Paper presented at the Information Technology: Coding and Computing [Computers and Communications], 2003.

Proceedings. ITCC 2003. International Conference on Information Technology: Coding and Computing [Computers and Communications], 2003. Proceedings. ITCC 2003.
Roztocki, N., & Lahri, N. A. (2003, 6-9 Jan. 2003). *Is the applicability of Web-based surveys for academic research limited to the field of information technology?* Paper presented at the System Sciences, 2003. Proceedings of the 36th Annual Hawaii International Conference on System Sciences, 2003. Proceedings of the 36th Annual Hawaii .

Schwalbe, K., (2005). Information technology project management. (4th ed.). New York: Thomson

S.E. Smith. (June 11, 2009). *What is Data Analysis?* Retrieved 22-10-2011, 2011, from http://www.wisegeek.com/what-is-data-analysis.htm

Singh, A., Taneja, A., & Mangalaraj, G. (2009). *Creating online surveys: some wisdom from the trenches tutorial. Professional Communication, IEEE Transactions on, 52*(2), 197-212.

Sommerville, I. (2007). *Software engineering* (8th ed ed.). Harlow: Addison-Wesley.

Taylor, J. K., & Cihon, C. (1990). *Statistical techniques for data analysis*: Chapman & Hall/CRC.

Wang, X. (26, 26-28 July 2011). *The application of SPSS in empirical research of housing hedonic price.* Paper presented at the Multimedia Technology (ICMT), 2011 International Conference on Multimedia Technology (ICMT), 2011 International Conference on VO -.

Weerahandi, S. (2003). *Exact statistical methods for data analysis*: Springer.

Wright, K. B. (2005). Researching Internet-Based Populations: Advantages and Disadvantages of Online Survey Research, Online Questionnaire Authoring Software Packages, and Web Survey Services. *Journal of Computer-Mediated Communication, 10*(3), 00.

Yian-Shu Chu, Shian-Shyong Tseng,Jui-Feng Weng,Huan-Yu Lin,Nien-Chu Wang,Liao, A.Y.H., &AJun-Ming Su. (2010, 18-20 Nov. 2010). *Adaptively Learning and Assessing SPSS Operating Skills Using Online SPSS Simulator.* Technologies and Applications of Artificial Intelligence (TAAI), 2010 International Conference.

Zhang, S., Li, Y., & Li, T. (17, 17-19 Nov. 2010). *A study on the application of Internet symbols under the context of Chinese culture in the product design.* Paper presented at the Computer-Aided Industrial Design & Conceptual Design (CAIDCD), 2010 IEEE 11th International Conference on Computer-Aided Industrial Design & Conceptual Design (CAIDCD), 2010 IEEE 11th International Conference on VO - 2.