

A PORTAL FOR CONFERENCES

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A PORTAL FOR CONFERENCES

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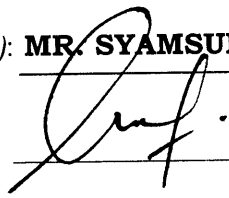
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ABSTRAK

Portal diperkenalkan bertujuan untuk membantu pengguna untuk mendapatkan maklumat menerusi WWW. Manakala persidangan merujuk kepada satu bentuk forum untuk perbincangan mengenai bidang-bidang tertentu. Kajian ini bertujuan untuk membangunkan satu pusat informasi berasaskan web yang mengkhususkan dalam mempromosi persidangan. Oleh itu, portal persidangan dilihat sebagai penghubung komunikasi antara organisasi dan pengguna.

Berdasarkan ulasan karya, fungsi-fungsi dan ciri-ciri telah dapat dikenalpasti dan ianya diadaptasikan di dalam prototaip yang dibina. Menerusi kajian ini, penilai terhadap prototaip telah dijalankan yang melibatkan beberapa pengguna untuk menentukan tahap kepuasan prototaip ini dari segi kandungan, ketepatan, format, kebergunaan, dan masa.

Oleh itu, hasil menunjukkan bahawa prototaip ini ditahap yang memuaskan dan memenuhi kehendak pengguna. Kesimpulannya, prototaip ini masih perlu ditingkatkan memandangkan ianya hanya memfokus dalam bidang IT seperti Multimedia, Kepintaran Buatan, Rangkaian dan Keselamatan, Kejuruteraan Perisian, dan Pengurusan Maklumat.

ABSTRACT

Portal originally came to exist to help users to find information on the World Wide Web. A conference is a kind of forum for the discussion of some broad subject. This project attempts to develop a web-based information centre that specializes in promoting new conferences. Therefore, a portal for conferences is seemed to bridge up the communication between both organizations and users.

From the literature survey, several functionalities and features have been identified. The functionalities are than adapted in a prototype. Throughout this study, the evaluation of the prototype is been done which involved several participants in order to determine user satisfaction of a developed web portal in terms of the portal content, accuracy, format, ease of use, and timeliness.

In addition, the result shows that the prototype is working properly and than functionalities are be able to full fill most of user requirements. As a conclusion, the prototype still need further enhancement as it only focuses on IT areas such as Multimedia, Artificial Intelligence, Network and Security, Software Engineering and Information Management.

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LIST OF ABBREVIATIONS

ASP	Active Server Page
B2B	Business to Business
B2C	Business to Customer
B2E	Business to Employee
EIP	Enterprise Information Portals
HTML	Hypertext Markup Language
IEM	Innovative Emergency Management
MRO	North American Maintenance, Repair and Operations
NGOs	Non Government Organization
SPSS	Statistical Package for Social Science
SQL	Structured Query Language
UML	Unified Modeling Language
WAP	Wireless Application Protocol
WWW	World Wide Web

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CHAPTER 1

INTRODUCTION

1.1 Introduction

The borderless world and globalization are no longer considered to be something new among today's society. Due to the growing use of the internet and the existence of sophisticated communication technology, today's society is no longer encumbered by geographical boundaries in the quest for information. This scenario indubitably leaves a positive impact on a portal for conferences. Portals a gateway to the internet, is a web-based applications that are able to provide facilities for visitors to access needed information.

Chem.Web.Com (2001), defines portal as a website that aims to be the 'doorway' to the World Wide Web (WWW). Portal typically consists of a search engine or links to useful pages, and possible news or other services. By virtue of the fact that these services are provided free of charge, the owners hope that visitors will make the site as their default homepage and many way return visits. Many other portals being to generate income for their owners. They may focus on a specific group of users and may also be a part of an intranet or extranet.

The contents of
the thesis is for
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only

REFERENCE

- Allaire Corporation (1999). *Welcome to the ColdFusion 4.5 Web Application Server*. Administering the ColdFusion Server . Retrieve from Allaire Coldfusion Studio 4.5.1. on 15/2/2005.
- Alexander, J., & Tate, M.A.(1996). *Checklist for An Infomational Web Page*. Retrieve from <http://www2.widener.edu/Wolfgram-MemorialLibrary/webevaluation/inform.htm>, on 13/12/2004.
- Avaya, Inc. (2004). *Web Portal Features: Conference Scheduling, Management & Administration*. Avaya Meeting Exchange. Retrieve from http://www.spectel.com/avaya/downloads/EF-LB2505_webportal.pdf on 10/12/2004.
- Baxley, B. (2003). What is a Web Application. Professional Practices. Retrieve from http://www.boxesandarrows.com/archives/what_is_a_web_application.php?page=discuss on 8/2/2005.
- Beer, C. D. (2004). *Applying Artificial Intelligence Principles to Portal Customization-A Theoretical Approach*. Web Manager Institutional Information. Retrieve from http://www-ist.massey.ac.nz/icara2004/files/Papers/Paper48_ICARA2004_277_282.pdf On 29/1/2005.
- Bennett, S., McRobb, S., & Farmer, R (2002). *Object-oriented systems analysis and design using UML*. 2nd edition. Berkshire: McGraw-Hill Education.
- ChemWeb.Com (2001). *Information Portals for the Chemical Community*. ACS Fall National Meeting. Retrieve from <http://www.lib.uchicago.edu/cinf/222nm/presentations/222nm027.pdf> on 29/1/2005.
- Dataquest (2003). *Portals - The All-In-One Web Supersites: Features, Functions, Definitions, Taxonomy*. SAP. Com. Retrieve from http://www.sapdesignguild.org/editions/edition3/portal_definition.asp on 3/12/2004.

Doll, William J. ,Torzadeh & Gholamreza (1988). "*The Measure of End-User Computing Satisfaction*," *MIS Quarterly*, Vol. 12, No. 2, June, , pp. 259-274. Retrieve on February 7, 2005 from <http://wings.buffalo.edu/mgmt/courses/mgtsand/success/doll.html>.

Gal, A., Mylopoulos, J. (2001). *Toward Web-Based Application Management Systems*. IEEE Transaction on Knowledge and Data Engineering. Retrieve from <http://www.computer.org/> on 5/2/2005.

Internet.com, earthweb.com (2002). *Deploying, Optimizing and Extending Portal-based, Enterprise-class Web Systems*. Enterprise Web & Corporate Portal Conference & Expo. Retrieve from <http://www.jupiterevents.com/eweb/spring02/> on 13/12/2004.

IEM (2001). *Enterprise Information Portals*. White paper. Innovative Emergency Management. Retrieve from http://www.ieminc.com/Whats_New/Enterprise_Information_Portals_whitepaper.pdf on 13/12/2004.

Kounadis, T. (2000). *How To Pick the Best Portal*. E-Business Advisor Magazine. Retrieve from <http://www.advisor.com/Articles.nsf/aid/KOUNT01> on 3/12/2004.

Microsoft Corporation (1999). *What's new in Access*. View information on object dependencies. Retrieve from Microsoft Office Access 2003 on 15/2/2005.

Miller, P. (2001). *The Concept of the Portal*. Ariadne Issue 30. . Retrieve from <http://www.ariadne.ac.uk/issue30/portal/> on 4/12/2004.

Nunamaker, J., Chen, M. & Purdin, T. (1991). System Development in Information System Research. *Journal of Management Information System*, 7(3), 89-106.

Nunndly (1978). *Psychometric Theory*, 2nd Edition, New York; Mc Graw-Hill.

Ovum (2000). *Portals - The All-In-One Web Supersites: Features, Functions, Definitions, Taxonomy*. SAP. Com. Retrieve from http://www.sapdesignguild.org/editions/edition3/portal_definition.asp on 3/12/2004.

Portal Community (2004). *Portal Definition and Types of Portals*. PortalsCommunity.com Fundamentals. Retrieve from <http://www.PortalsCommunity.com&cc=&bcc=&subject> on 30/11/2004.

Sakaran, U (2003), *Research Methods for Bisness*. 4th Edition. John Wiley & Sons, Inc.

Schlock, J (1999). *What is a Web-based Application*. JasonSchock.com. Retrieve from http://www.jasonschock.com/writings/dtd/desktop_2.php3 on 8/2/2005.

Waloszek, G (2001). *Is a Portal a Portal?* SAP. com. Retrieve from http://www.sapdesignguild.org/community/editorials/editorial_06_2001.asp on 3/12/2004.

Wikipedia (2004). *Web portal*. A Wikipedia Project. Retrieve from http://en.wikipedia.org/wiki/Web_portal#Features on 2/12/2004.

Winkler R (2003). *Portals - The All-In-One Web Supersites: Features, Functions, Definitions, Taxonomy*. SAP. Com. Retrieve from http://www.sapdesignguild.org/editions/edition3/portal_definition.asp on 3/12/2004.