# INFORMATION TECHNOLOGY ISSUES AND APPLICATIONS IN MALAYSIA A COLLECTION OF ARTICLES

Chief Editor
Assoc. Prof. Dr. Husnayati Hussin

Editors

Professor Dr. Abu Osman Md Tap Professor Dr. Mohd Adam Suhaimi Assistant Professor Dr Mira Kartiwi





### INFORMATION TECHNOLOGY ISSUES AND APPLICATIONS IN MALAYSIA A COLLECTION OF ARTICLES

#### **Chief Editor:**

Assoc. Prof. Dr. Husnayati Hussin

#### **Editors:**

Professor Dr. Abu Osman Md Tap Professor Dr. Mohd Adam Suhaimi

Assistant Professor Dr Mira Kartiwi



#### Published by: IIUM Press International Islamic University Malaysia

#### First Edition, 2011 ©HUM Press, HUM

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without any prior written permission of the publisher.

Perpustakaan Negara Malaysia

Cataloguing-in-Publication Data

Assoc. Prof. Dr. Husnayati Hussin, Prof. Dr. Abu Osman Md Tap, Prof. Dr. Mohd Adam Suhaimi, Assistant Prof. Dr Mira Kartiwi Information Technology Issues And Applications In Malaysia: A Collection Of Articles

Assoc. Prof. Dr. Husnayati Hussin, Prof. Dr. Abu Osman Md Tap, Prof. Dr. Mohd Adam Suhaimi, Assistant Prof. Dr Mira Kartiwi Include index

Bibliography: p. 149 ISBN 978-967-418-003-4

ISBN: 978-967-418-003-4

Member of Majlis Penerbitan Ilmiah Malaysia – MAPIM (Malaysian Scholarly Publishing Council)

Cover Design by Abdullah Al Mamun Sarwar

#### MIY IDEAL RESOURCES

116-1B, Jalan 3 Batu Caves Centre Point 68100 Batu Caves Selangor Darul Ehsan

#### **CONTENTS**

| 1  | page |
|--|------|
| Preface  | viii |
| Acknowledgments E-Government Strategies and Implementation   | xi   |
| Understanding fit between technology, organization and people (F-TOP) factors in e-government: the case of judicial information systems  Muhd Rosydi bin Muhammad  | 1    |
| Interaction Design of the Malaysian e-Government Portal Murni Mahmud   | 23   |
| An Empirical Study on Strategic Information Systems Planning Practices on Malaysian Government Agencies Mohd Adam Suhaimi, Husnayati Hussain and Fazidah Abu Bakar | 49   |
| ICT Application, Issues & Challenges in Malaysia Higher Education Institutions   |      |
| Enterprise Security Policy: Challenges and Issues for Malaysian<br>Universities<br>Jamaludin Ibrahim   | 77   |
| Supporting Student Participation and Interactivity in the Classroom Using Mobile Phones  Media A. Ayu  | 93   |

| Learning by Doing: Potential Use of E-Commerce in Entrepreneurship Education in Higher Education Institutions Mira Kartiwi                          | 119 |
|---|-----|
| Information Technology Outsourcing Practices  |     |
| IT Outsourcing Practices among Malaysia SMEs:<br>Some Empirical Evidence<br>Husnayati Hussin and Nurulnuha Abd Molok                                | 139 |
| Applying Multiple Case Studies Research to Investigate IT Development Outsourcing Project Risks Lili Marziana Abdullah                              | 163 |
| Collaborative Information System & Quality Assurance  |     |
| The dimension of Collaboration: Communities, well-being and Information Systems  Abdul Rahman bin Ahmad Dahlan                                      | 187 |
| Improving the Quality of User Experience by Deploying an open access network framework in a fiber-to-the-home environment in Malaysia  Zahid Ismail | 211 |
| The potential of Fuzzy Evaluation Approach in Information Systems Abu Osman Md Tap  | 239 |

#### ICT and Islamic Values

## Foundations of Islamic Values for ICT Development Aznan Zuhid hin Saidin

257

Justification of Voice Recognition System: Case Study of the Quran 287 Akram M. Zeki, Jalel Chebil, Abd Wahab Ishari and Ahmed M. Zeki

# Interaction Design of the Malaysian e-Government Portal

#### Murni Mahmud

Department of Information Systems
Kulliyyah of Information and Communication
Technology
International Islamic University Malaysia
murni@iium.edu.my

Abstract: The implementation of e-Government intends to provide better services to the Malaysian citizens, as e-Government could reach a wider range of Malaysian population anytime and anywhere through its portal. The effectiveness of the e-Government portal could be measured from its interaction design. In this study, the portal interaction was evaluated using a heuristic evaluation method which comprised usability, accessibility and attractiveness. The findings showed that the participants were satisfied with the portal's interaction design. However, the overall task performance was less efficient. The findings from this study has provided a better understanding of the interaction behaviour toward the Malaysian e-government portal and yielded some recommendations for better design of interaction.

Keywords: Heuristic evaluation, Interaction Design, Usability, Accessibility, Attractiveness, e-Government Portal

#### 1. INTRODUCTION

Interaction between citizens and their government is enabled by e-Government which is accessible through e-Government portals. Acceptable interaction design for the citizen is important for the success of an e-government portal as portals have emerged to support people and allow organisations to locate information more efficiently.

Research in human computer interaction (HCI) has indicated that interaction evaluation is important for design improvements (Paris, 2005; Sutcliffe, 2002). Evaluations of website interaction and interface are commonly conducted; however, few studies have been conducted on the e-government portal interfaces or interaction. Several aspects of interface usability need further study elucidate the evaluation criteria because there are many specific needs and alternative guidelines for evaluation methods. The choice of usability, accessibility and attractiveness heuristics as the focus of the study is mainly directed by the HCI literature, and at the same time, many evaluators have found that this method could address the specific needs to evaluate egovernment websites (Garcia et al., 2005; Lee and Cho, 2007; Soufi and Maguire, 2007). Studies on Malaysian e-government portal (myGovernment) are scarce. Evidence from the literature indicates that not much research has been conducted in evaluating users interaction with myGovernment portal.

This study seeks to understand the problems encountered by users when interacting with the Malaysian *myGovernment* portal, and aims to answer the following questions: First, are users satisfied, with the usability, accessibility and attractiveness of the *myGovernment* portal? Second, what are users' perceptions of *myGovernment* portal? The remainder of the paper will briefly describe the literature of the evaluation of e-government portal, the inception of myGovernment, methods of user studies, results, discussion and conclusion.