

An Anthology of Applied Computer Technologies

Zulkefli Muhammed Yusof
M.M Hafizur Rahman



IIUM PRESS

INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

AN ANTHOLOGY OF APPLIED COMPUTER TECHNOLOGIES

Editors

Zulkefli Muhammed Yusof

M.M. Hafizur Rahman



IIUM Press

Published by:

IIUM Press

International Islamic University Malaysia

First Edition, 2011
©IIUM Press, IIUM

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

Zulkefli Muhammed Yusof and M.M. Hafizur Rahman:
An Anthology of Applied Computer Technologies

ISBN: 978-967-418-106-2

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

Printed by :

IIUM PRINTING SDN. BHD.

No. 1, Jalan Industri Batu Caves 1/3

Taman Perindustrian Batu Caves

Batu Caves Centre Point

68100 Batu Caves

Selangor Darul Ehsan

CONTENTS

EDITORIAL NOTE

Zulkefli Bin Muhammed Yusof..... *i*

1. Web And Mobile Based Phrase Dictionary

Normaziah A. Aziz, Noranidah Binti Mohamad, Nur Afifah Binti Ahmad Murad *1*

2. Computerized Observation Of Motion In Badminton Tracking System

Normaziah A. Aziz, M. Amar Odenan, Taufiq M. Khadafi *11*

3. Analyzing Driving Behaviour Using Speech Recognition Through KDE And MLP

Abdul Wahab Bin Abdul Rahman, Norazilah Nuji, Khadijah Adibah Ahmad *21*

4. Driver Identification and Driver's Emotion Verification Using KDE and MLP Neural Networks

Abdul Wahab Bin Abdul Rahman, Norzaliza Md Nor, Asma' Ismail *35*

5. Emotion Speech Recognition Using KDE and MLP Neural Networks

Abdul Wahab Bin Abdul Rahman, Nor Fadilah Basiron, Nor Ashikin Ishak *55*

6. Investigating Computer Forensic Tools And Their Searching Techniques

Normaziah A. Aziz, Aniyath Ali, Mahmoud Abdul Wahab *69*

- 7. A Web-Based Approach for the KICT Evaluation System**
Al-Sakib Khan Pathan, Nurul Nabilah Kamarudin, Hasfaizaidah Hassan, Nadilatul Eliana Ali 87
- 8. Brainwave Study On The Effect Of Music On Perception**
Abdul Wahab Bin Abdul Rahman, Nur Izrin Roslan, Siti Norhaizum Mohd Hasnan 95
- 9. Brute Force Password Search Using Multithreading and Grid Computing**
Al-Sakib Khan Pathan, Ahmad Nazmi Fadzal 113
- 10. A Study Using Driving Simulator To Understand Driver's Perception A Priori And Post Priori Of Accidents**
Abdul Wahab Bin Abdul Rahman, Nor Akmal Harun, Norasyikin Lipoh 125
- 11. Secure Coding in Cross Site Scripting**
Normaziah A. Aziz, Milly Hafizah Mohd Kanafia, Salmiah Haseng 143
- 12. Pronouncing Dictionary for Minority Languages of Muslim Community**
Normaziah A. Aziz, Ahmad Hasanul Ishraf Shuib, Mohd Fazlie Awalluddin 157
- 13. The Impact of Transmission Range over Node Density in Vehicular Ad Hoc Network (VANET) with Obstruction of Road Infrastructure**
Zulkefli Bin Muhammed Yusof, Nur Nazmah Mat Zin 167
- 14. Mobile Data Services in Java 2 Platform Micro Edition (J2ME): MobileOrder**
Zulkefli Bin Muhammed Yusof, Mohd Asyraf 177

15. Content Management System Minisite	
<i>Zulkefli Bin Muhammed Yusof, Ammar Bin Mat Rawi.....</i>	<i>189</i>
16. Classification Based On Basic Emotion	
<i>Abdul Wahab Abdul Rahman, Husna Mohd Salih, Nurulhidayah Abd. Latif.....</i>	<i>199</i>
17. Basic Emotions Verification and Identification using Gaussian Mixture Model (GMM) Features Extraction	
<i>Abdul Wahab Abdul Rahman, Siti Norhidayah Saad, Syuwaida N. Zahari</i>	<i>211</i>
18. SQL Injection Penetration Testing Tutorial	
<i>Al-Sakib Khan Pathan, Diallo Abdoulaye Kindy.....</i>	<i>225</i>
19. A Survey of Photonic Switching Network	
<i>Al-Sakib Khan Pathan, M. M. Hafizur Rahman</i>	<i>235</i>
20. An Evaluation of Photonic Switching Network	
<i>Al-Sakib Khan Pathan, M. M. Hafizur Rahman.....</i>	<i>255</i>

20. AN EVALUATION OF PHOTONIC SWITCHING NETWORK

Al-Sakib Khan Pathan, M. M. Hafizur Rahman
Department of Computer Science, Faculty of Information and
Communication Technology, International Islamic University Malaysia,
Malaysia

ABSTRACT

For a good switching architecture from system considerations, for a given switch size, N , the number of switching elements (SEs) should be as small as possible. When the number is large, implementation is expensive and the optical path is subject to large power loss and crosstalk. When designed to reduce the SE in total and in each path, a switch can have a large internal blocking probability. The internal blocking should be avoided or reduced. It can be reduced to zero by using a good switching control or by rearranging the current switching configurations. These cases are called wide-sense non-blocking and rearrangeably non-blocking, respectively. If a blocking condition never arises in a switch it is said to be strictly non-blocking. In this paper, a new optical multistage interconnection network for photonic switching is proposed. A routing algorithm has also been proposed to show the proposed network to be wide-sense non-blocking.

20.1 INTRODUCTION

Wide-sense non-blocking capability can be considered as a compromise between strictly non-blocking and rearrangeable non-blocking. For a wide-sense non-blocking network, an intelligent routing algorithm must be employed to govern the process of path routing. Through carefully selecting the paths used to satisfy the current connection request, the non-blocking