Selected Readings in COMPUTING AND TELECOMMUNICATIONS

Editors
Mira Kartiwi
Teddy Surya Gunawan
Aisha Hassan Abdalla Hashim

IIUM Press
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

SELECTED READINGS IN COMPUTING AND TELECOMMUNICATIONS

Editors
Mira Kartiwi
Teddy Surya Gunawan
Aisha Hassan Abdalla Hashim

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

Mira Kartiwi, Teddy Surya Gunawan, Aisha Hassan Abdalla Hashim:
Selected Readings in Computing and Telecommunications

ISBN: 978-967-0225-81-4

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

TABLE OF CONTENT

PREFACE x

1. MANUSCRIPT PROCESSES MONITORING SYSTEM FOR RESEARCH MANAGEMENT CENTER

Aznan Zuhid bin Saidin, Mira Kartiwi and Husam bin Latih @ Abdullatif .. 1

2. IIUM STUDENTS FORUM SYSTEM

Mira Kartiwi and Waleed Mohamed Ibrahim 9

3. SABA DECORATION FACTORY (SDF) SYSTEM

Mira Kartiwi and Abdulaziz Omar 17

4. TAKAFUL AGENCY WEB PORTAL

Mira Kartiwi and Mohd. Hafiz Zairin bin Ayop 27

5. HUMAN CAPITAL BUSINESS PARTNER INFORMATION TECHNOLOGY & NETWORK TECHNOLOGY MAN POWER MODEL

Akram M. Z. Khedher and Siti Sarah binti Abdul Halim 39

6. DEVELOPMENT OF ENERGY ASSESSMENT TOOLS FOR SINGLE PHASE APPLIANCES

Musse Mohamud Ahmed and Siti Nor Amiza bt Massere..... 52

7. FINGERPRINT AUTHENTICATION SYSTEM USING MATLAB

Teddy Surya Gunawan and Mohd. Hanis bin Jenalis 66

8. PERFORMANCE EVALUATION OF LOSSLESS SPEECH AND AUDIO COMPRESSION ALGORITHMS

9. Design and Implementation of Voice Security System in Matlab and Java

Teddy Surya Gunawan and Siti Ruqayah bt. Mohd Akahsah..... **91**

10. Design and Development of RFID Security Model

Ahmed Wathik Naji and Fatema-Tuz-Zohra..... **112**

11. Radio Propagation Measurement and Channel Modelling for Wireless Body Area Network

Mimi Aminah bt. Wan Nordin and Norsyaidatul Fairuz bt. Fauziz **125**

12. Feature Extraction for Automatic Fetus Age Estimation for Ultrasound Images Using Ellipse Model

Teddy Surya Gunawan and Norakmal Abdullah..... **143**

13. Noise Reduction Using Kalman Filter

Teddy Surya Gunawan and Ismail Haji Hassan Dualeh..... **168**

14. Parallel Algorithms for Edge Detection on Cluster Computer

Teddy Surya Gunawan and Elkabir Ansoya Bacar..... **189**

15. Prediction of Probability of Bit Error Rate in Digital Communication System

Saad Osman Bashir, Abdallah Mohammed Tawfeeq Zyoud and Besir Salah Eldin Mahmoud Sid Ahmed **209**

16. Comparative Analysis of Low Power VLSI Circuits Techniques

Anis Nurashikin Nordin and Fatin Alea bt. Talib **219**

17. Spherical POV LED Display Using PIC 16F628

Teddy Surya Gunawan and Muhammad bin Ahmad **235**

18. Implementation of Capacitance of Voltage Converter for Capacitive Transducers

A.H.M. Zahirul Alam and Nur Fadhila bt. Che Halim **255**

19. Protein Coding Identification of Human DNA Sequence Using Wavelet

Teddy Surya Gunawan and Norashikin Abdul Wahab **274**

20. Optimization of Zakat Management System in Indonesia Using Geographic Information System (GIS)

Muharman Lubis **292**

21. IIUM Car Sticker Recognition Using Phase Based Template Matching Algorithm

Teddy Surya Gunawan and Siti Aisyah bt. Mohamad **308**

1. MANUSCRIPT PROCESSES MONITORING SYSTEM FOR RESEARCH MANAGEMENT CENTER

Aznan Zuhid bin Saidin, Mira Kartiwi and Husam bin Latih @ Abdullatif

ABSTRACT

This report presents a project in IIUM to be developed as part of the e-Research project. The aim of this project is to create a system for RMC *(Research Management Centre)*. As well as an interactive system and easiest way for the researchers to send their research and check its status through this system. The project will involve three phases: the development of the website, development of the graphical interface of the manuscript processes monitoring system and the development of a web-based administration tool. The results from the proposed project will be an integrated system capable of tracking the process of manuscript, ability to check the status of the process and to serve the users in terms of their needs.

1.1 INTRODUCTION

The University Senate established research Management Centre of the International Islamic University Malaysia in 1991. The Research Management Centre aims to become the leading centre for management of research, development and commercialization, consultancy and publication imbued with Islamic values and ethics. In addition, it aims at becoming a leading international centre to promote research, which seeks to restore the dynamic and progressive role of the Muslim Ummah in all branches of knowledge. Also, it endeavors to promote research activities within the University and in collaboration with other research and academic institutions and to disseminate research findings through publications, training programs, and seminars and through the print media. The Research Management Centre is committed to ensure speedy, quality and efficient