

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

3. SABA DECORATION FACTORY (SDF) SYSTEM

Mira Kartiwi and Abdulaziz Omar

ABSTRACT

Saba Decoration Factory (SDF) is a firm that provides office and shops designs, decorations and construction materials to the Saudi Arabia market; it is a firm that has clients from several countries - Bahrain, Qatar and UAE. Saba is planning to expand its operations to manufacturing too. They use to deal manually with the clients, which cost more and not providing the flexibility.

3.1 INTRODUCTION

Currently the clients have to place their orders and requests personally in order to receive a quotation, which is a time consuming process. Such a process takes time and effort, which could be done in other way. Another issue comes to analyzing or reporting the requests or placing quotations, and that includes further customization too. It will spend the time of an employee while it could be done in an automatic method. A manual order application has to be automated through a central portal that is accessible to all the potential clients and staff. Such a project of an automated order application would lead the firm to expand the business and monitor their client's behavior and has significance such as employee can see his/her client history so a pattern can be extracted, manager can compare between orders on a timely manner, client can customize the orders without coming through the all the way and the administrative cost will be reduced. Therefore, objective of this project, which are:

1. Give a chance to their clients make online ordering.
2. Clines should create a file contains his details (name, address, etc).