



**Institute of Business & Technology**

Main Ibrahim Hyderi Road, Korangi Creek, Karachi. 75190, Pakistan  
UAN : (92-21) 111-428-428 Fax No : (92-21) 35091930  
E-Mail: jict@ibt.edu.pk URL: www.ibt.edu.pk

JOURNAL OF INFORMATION & COMMUNICATION TECHNOLOGY Vol II, No.1

# JOURNAL OF INFORMATION & COMMUNICATION TECHNOLOGY

A PUBLICATION OF THE FACULTY OF COMPUTER SCIENCES

May 2017

VOLUME 11

NUMBER 01

ISSN 1816-613X

**SCALABILITY AND FAULT-TOLERANCE IN DATA CENTER NETWORKS: ARCHITECTURES WHICH ARE PROMISING TO ACHIEVE THESE NETWORK CHARACTERISTICS IN DATA CENTER**

*Fawad Ahmed, Muhammad Alam, Nazia Shahzad*

**TEXT RECITER FOR VISUALLY IMPAIRED**

*Nan Ahmed Siddiqui, Ali Akbar Siddiqui, Sadaf Salahuddin, M. Tahir Qadri*

**AN ECONOMIC PERSPECTIVE ON MAJOR CLOUD COMPUTING PROVIDERS**

*Noman Islam, Zeeshan Islam*

**PERFORMANCE ANALYSIS OF SECURE & EFFICIENT REMOTE DESKTOP MANAGER**

*Soobia Saeed, Muhammad Alam*

**A COGNITIVE RADIO AD HOC NETWORK'S BASED DISASTER MANAGEMENT SCHEME WITH EFFICIENT SPECTRUM MANAGEMENT, COLLABORATION AND INTEROPERABILITY**

*Ghazala Shafi Shaikh, Noman Islam*

**USE OF INFORMATION SYSTEM IN HIGHER EDUCATION: AN APPROACH TO OF SELF ASSESSMENT REPORT BY HEC (QUALITY ENHANCEMENT CELL) FOR HIGH EDUCATION**

*Osama Ahmed, Muhammad Alam*

**TRI-BAND LINEAR T-CIRCULAR POLARIZATION CONVERTOR FOR KU BAND APPLICATIONS**

*Farman Ali Mangi, Deedar Ai Jamro, Memon Imran, Qasim Ali Arain, Ghulam Fatima Kake poto*

**FPGA-BASED MAXIMUM POWER POINT TRACKING OF SOLAR CELL**

*Rashid Hussain Chandio, Imtiaz Hussain Kalwar, Tayab Din Memon, Aftab Ahmed Mangrio, Shahzad Memon*

**ENVIRONMENTAL IMPACT OF INDUSTRIAL EFFLUENT AND CONTRIBUTIONS OF MANAGING BODIES IN CONTEXT OF KARACHI**

*Fabiha Khalid, Madiha Wasim, M. Tahir Qadri*

**SMART LAND RECORD APPLICATION USING WEB GIS AND GPS**

*Zameer Ahmed, Muhammad Amir Rizwan*



**Institute of  
Business & Technology**

**Journal of Information & Communication Technology  
(JICT)**

**Volume 11 No 1**

## **JOURNAL OF INFORMATION & COMMUNICATION TECHNOLOGY**

### **AIMS & SCOPE**

Journal of Information & Communication Technology examines a wide variety of contemporary issues in information technology and computer sciences. Published for executives, researchers and scholars alike, the Journal aids the application of empirical research to practical situations and theoretical findings to the reality of the technological world. The scope of the journal includes the all the contemporary issues of computer sciences and its sub fields. Unpublished papers and extended versions of papers presented at conferences may be submitted for possible publications in JICT. Responsibility for the content of a paper rests upon the authors and not upon the editors or the publishers.

# **JOURNAL OF INFORMATION & COMMUNICATION TECHNOLOGY**

## **ABOUT THE JOURNAL**

Journal of Information & Communication Technology is a biannual journal in the field of Computer Science and Information Technology that offers platform for researchers, scholars & scientist to publish their original and to date research of high scientific value. It is a double blind peer review open access academic journal, published bi-annually by Institute of Business & Technology (IBT). Articles published in the journal illustrate innovations, development and achievements in the field of Computer Science and Information Technology. The journal is being published electronically as well as in print form.

# **JOURNAL OF INFORMATION & COMMUNICATION TECHNOLOGY**

## **DISCLAIMER**

Facts and opinions in articles published on Journal of Information & Communication Technology are solely the personal statements of respective authors. Authors are responsible for all contents in their article(s) including accuracy of the facts, statements, citing resources, and so on. Editors disclaim any liability of violations of other parties' rights, or any damage incurred as a consequence to use or apply any of the contents of Journal of current research in science. Material submitted to JICT must be original and not published or submitted for publication elsewhere. Authors submitting a contribution to JICT who have related material under consideration or in press elsewhere should upload a clearly marked copy at the time of submission and draw the editor's attention to it in their cover letter. If a part of a contribution that an author wishes to submit to JICT has appeared or will appear elsewhere, the author must specify the details in the cover letter. Consideration by the JICT is possible if the main result, conclusion, or implications are not apparent from the other work, or if there are other factors, for example if the other work is published in a language other than English. Author is responsible to get permission from previous publisher or copyright holder if an author is re-using any part of paper (i.e. figure or figures) published elsewhere, or that is copyrighted. The editors consider all material in good faith that their journals have full permission to publish every part of the submitted material including illustrations.

# CONTENT

Page No	Paper
1-7	<p><b>SCALABILITY AND FAULT-TOLERANCE IN DATA CENTER NETWORKS: ARCHITECTURES WHICH ARE PROMISING TO ACHIEVE THESE NETWORK CHARACTERISTICS IN DATA CENTER</b></p> <p><i>Fawad Ahmed, Muhammad Alam, Nazia Shahzad</i></p>
8-11	<p><b>TEXT RECITER FOR VISUALLY IMPAIRED</b></p> <p><i>Nan Ahmed Siddiqui, Ali Akbar Siddiqui, Sadaf Salahuddin, M. Tahir Qadri</i></p>
12-15	<p><b>AN ECONOMIC PERSPECTIVE ON MAJOR CLOUD COMPUTING PROVIDERS</b></p> <p><i>Noman Islam, Zeeshan Islam</i></p>
16-26	<p><b>PERFORMANCE ANALYSIS OF SECURE &amp; EFFICIENT REMOTE DESKTOP MANAGER</b></p> <p><i>Soobia Saeed, Muhammad Alam</i></p>
27-35	<p><b>A COGNITIVE RADIO AD HOC NETWORK'S BASED DISASTER MANAGEMENT SCHEME WITH EFFICIENT SPECTRUM MANAGEMENT, COLLABORATION AND INTEROPERABILITY</b></p> <p><i>Ghazala Shafi Shaikh, Noman Islam</i></p>
36-50	<p><b>USE OF INFORMATION SYSTEM IN HIGHER EDUCATION: AN APPROACH TO OF SELF ASSESSMENT REPORT BY HEC (QUALITY ENHANCEMENT CELL) FOR HIGH EDUCATION</b></p> <p><i>Osama Ahmed, Muhammad Alam</i></p>
51-59	<p><b>TRI-BAND LINEAR T-CIRCULAR POLARIZATION CONVERTOR FOR KU BAND APPLICATIONS</b></p> <p><i>Farman Ali Mangi, Deedar Ai Jamro, Memon Imran, Qasim Ali Arain, Ghulam Fatima Kake poto</i></p>
59-62	<p><b>FPGA-BASED MAXIMUM POWER POINT TRACKING OF SOLAR CELL</b></p> <p><i>Rashid Hussain Chandio, Imtiaz Hussain Kalwar, Tayab Din Memon, Aftab Ahmed Mangrio, Shahzad Memon</i></p>
63-75	<p><b>ENVIRONMENTAL IMPACT OF INDUSTRIAL EFFLUENT AND CONTRIBUTIONS OF MANAGING BODIES IN CONTEXT OF KARACHI</b></p> <p><i>Fabiha Khalid, Madiha Wasim, M. Tahir Qadri</i></p>
76-84	<p><b>SMART LAND RECORD APPLICATION USING WEB GIS AND GPS</b></p> <p><i>Zameer Ahmed, Muhammad Amir Rizwan</i></p>

## **INSTRUCTIONS TO AUTHORS**

Author(s) are requested to please carefully read all the instructions before submitting a manuscript to the Journal of Information & Communication Technology (JICT). Manuscripts not prepared as per below mentioned specifications may be returned to the author(s) and may experience significant delays in review and time to publication.

### **MANUSCRIPT SUBMISSION**

Three hard copies of manuscripts of articles, comments, notes or book-reviews, should be submitted to

The Editor  
Journal of Information & Communication Technology  
Main Ibrahim Hydri Road, Korangi Creek

### **GUIDELINES FOR AUTHORS**

❖ **Title Page**

This page should contain the full title of the paper and complete names, affiliations, addresses, phone and fax numbers, and e-mail addresses of all authors. The contact author should be indicated.

❖ **Abstract**

The abstract must be a concise yet comprehensive reflection of what is in your article. In particular:• The abstract must be self-contained, without abbreviations, footnotes, or references. It should be a microcosm of the full article.• The abstract must be between 150-250 words. Be sure that you adhere to these limits; otherwise, you will need to edit your abstract accordingly.• The abstract must be written as one paragraph, and should not contain displayed mathematical equations or tabular material.• The abstract should include three or four different keywords or phrases, as this will help readers to find it. It is important to avoid over-repetition of such phrases as this can result in a page being rejected by search engines.

❖ **Keywords**

All papers must contain keywords or index terms. They are provided by the authors. They should be provided in alphabetical order and as a final paragraph of the abstract section.

❖ **Illustrations and multimedia**

The Proceedings is eager to publish color illustrations, especially in those cases where color enhances technical details and understanding; there is no additional cost to the author for publishing color figures. Image quality is very important in how the graphics will reproduce. IBT accepts PostScript (PS), Encapsulated PostScript (EPS), Portable Document Format (PDF), Portable Network Graphics (PNG), or Tagged Image File Format (TIFF) for graphics submissions. Only when graphic was originally drawn in the program is it acceptable to submit Microsoft Office Documents (DOC, PPT, XLS). High-resolution JPGs are acceptable for author photos only. Detailed instructions and frequently asked questions about graphic and multimedia submissions can be found at the following URLs.

❖ **Photographs and biographies**

Authors' photographs and biographies are published in conjunction with papers. They can be provided after acceptance of a paper. Biographies should not exceed 200 words.

Contact Us  
The Editor  
Journal of Information & Communication Technology  
Institute of Business and Technology (IBT)  
Main Ibrahim Hydri Road, Korangi Creek Karachi-75190 Pakistan  
URL: [www.ibt.edu.pk](http://www.ibt.edu.pk)  
Email: [jict@ibt.edu.pk](mailto:jict@ibt.edu.pk)

# JOURNAL OF INFORMATION & COMMUNICATION TECHNOLOGY

## Editor in Chief

**Dr. Mehmood Raza Naqvi**  
*Dean of Computer Science & IT*  
*Institute of Business & Technology*

## Editor

**Prof. Dr. Asad Ali Shaikh**  
*Associate Dean Faculty of Computer Sciences & IT*  
*Institute of Business & Technology*

## Assistant Editor

**Hassan Ali**  
*Institute of Business & Technology*

## EDITORIAL BOARD

<b>Dr. Sadiq</b>	<i>University of Karachi</i>	<i>Pakistan</i>
<b>Dr. Waqar Saleem</b>	<i>Habib University</i>	<i>Pakistan</i>
<b>Dr. Mansoor Alam</b>	<i>Institute of Business Management</i>	<i>Pakistan</i>
<b>Dr. Shahzad Memon</b>	<i>University of Sindh</i>	<i>Pakistan</i>
<b>Dr. Kamran Taj pathan</b>	<i>University of Sindh</i>	<i>Pakistan</i>
<b>Dr. shahid Hussain</b>	<i>Usman Institute of Technology-UIT</i>	<i>Pakistan</i>
<b>Ms. Nasreen Jawaid</b>	<i>Institute of Business &amp; Technology</i>	<i>Pakistan</i>
<b>Mr. Noman Zahid</b>	<i>Institute of Business &amp; Technology</i>	<i>Pakistan</i>
<b>Mr. Waqas Siddiqui</b>	<i>Institute of Business &amp; Technology</i>	<i>Pakistan</i>

## BOARD OF ADVISORY

<b>Dr. Yousuf Khan</b>	<i>Iqra University</i>	<i>Pakistan</i>
<b>Dr. Athar Mahboob</b>	<i>DHA Suffa University</i>	<i>Pakistan</i>
<b>Dr. Bisharat R. Memon</b>	<i>University of Southern Denmark</i>	<i>Denmark</i>
<b>Mr. Zohaib Sajid</b>	<i>Institute of Business &amp; Technology</i>	<i>Pakistan</i>
<b>Mr. Danish Anwar</b>	<i>Institute of Business &amp; Technology</i>	<i>Pakistan</i>
<b>Dr. Aysh Alhroob</b>	<i>Isra University</i>	<i>Jordan</i>
<b>Dr. Tariq R. Soomro</b>	<i>Shaheed Zulfikar Ali Bhutto, Institute of Science and Technology</i>	<i>UAE</i>

## DESIGN & LAYOUT

**OwaisSaleem**  
**Muhammad Hamza Musluddin**



## JOURNAL OF INFORMATION & COMMUNICATION TECHNOLOGY

### LIST OF REFEREES

#### NATIONAL

<b>Dr. M. Tahir Qadri</b>	<i>Sir Syed University of Engineering &amp; Technology</i>
<b>Dr. Atta-Ur- Rehman Khan</b>	<i>COMSATS Institute of Information Technology</i>
<b>Dr. Mustansar Ali Ghazanfar</b>	<i>University of Engineering and Technology, Taxila</i>
<b>Dr. Muhammad Arif Hussain</b>	<i>Mohammad Ali Jinnah University</i>
<b>Dr. Syed Faisal Ahmed Bukhari</b>	<i>Sir Syed University of Engineering &amp; Technology</i>
<b>Dr. Rizwan Atktar</b>	<i>Comsats IIT Attock Campus</i>
<b>Dr. Muhammad Sarim</b>	<i>Federal Urdu University of Art, Science &amp; Technology</i>
<b>Dr. Noman Islam</b>	<i>Indus University, Pakistan</i>
<b>Dr. Syed Nazeer Alam</b>	<i>National University of Sciences and Technology (NUST)</i>
<b>Dr. Muhammad waseem</b>	<i>Uman Institute of Technology</i>
<b>Dr. Zia Mohyd</b>	<i>Sir Syed University of Engineering &amp; Technology</i>
<b>Dr. Muhammad Aamir</b>	<i>Sir Syed University of Engineering &amp; Technology</i>
<b>Dr. Shazia Abbasi</b>	<i>University of Sindh , Pakistan</i>
<b>Dr. Zeeshan Bhatti</b>	<i>University of Sindh , Pakistan</i>
<b>Ms.Asifa Bhatti</b>	<i>University of Sindh , Pakistan</i>
<b>Dr. Ghulam Mustufa shah</b>	<i>University of Sindh , Pakistan</i>
<b>Dr. Abdul Waheed Mahesar</b>	<i>University of Sindh , Pakistan</i>
<b>Dr. Akhtar Ali Jalbani</b>	<i>Sindh Agriculture University Tandojam</i>

#### INTERNATIONAL

<b>Dr. Syed Misbahuddin</b>	<i>Umm Al- Qura University, Saudi Arabia</i>
<b>Dr. Muneer Ahmed</b>	<i>King Faisal University, Damam, Saudi Arabia</i>
<b>Dr. Syed Abdul Moiz</b>	<i>Umm Al Qura University, Saudi Arabia</i>
<b>Dr. Sajid Iqbal</b>	<i>Harbin Institute of Technology (HIT), China</i>
<b>Dr. Ali Raza Soomro</b>	<i>International Islamic university Malaysia</i>
<b>Dr. Abdul Raouf Khan</b>	<i>King Faisal University, Damam, Saudi Arabia</i>
<b>Dr. Hassan wahba</b>	<i>Emirates College for Management and IT, UAE</i>
<b>Dr. Asadullah shah</b>	<i>International Islamic university, Malaysia</i>
	<i>Shaheed Zulfikar Ali Bhutto Institute of Science and Technology, UAE</i>
<b>Dr. M.N.Brohi</b>	
<b>Dr. Ali Tufail</b>	<i>Islamic University of Madinah, Saudi Arabia</i>
<b>Dr. Shafqat Rehman</b>	<i>Ankara Yildirim Beyazit University , Turkey</i>
<b>Dr. Muhammad Zahid Tunio</b>	<i>Beijing University of post &amp; Telecommunication, china</i>
<b>Dr. Adbdul Qadar, Kara</b>	<i>King Fahad university for petroleum &amp; minerals, saudi arabia</i>
<b>Dr. Sarfraz Nawaz Brohi</b>	<i>Taylor's University, Malaysia</i>