

2019 IEEE 5th International Conference on Wireless and Telematics (ICWT 2019)

**Yogyakarta, Indonesia
25-26 July 2019**



**IEEE Catalog Number: CFP19E15-POD
ISBN: 978-1-7281-4797-0**

**Copyright © 2019 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP19E15-POD
ISBN (Print-On-Demand):	978-1-7281-4797-0
ISBN (Online):	978-1-7281-4796-3

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

Table of Content

- 1 Making Augmented Reality Learning Media In Conformation of Alkane and Cycloalkane Concepts
Masmui, Neneng Windayani, Ferli Septi Irwansyah, and Efa Nur Asyiah
- 6 Design of Bag Monitoring Security System Based On Internet of Things
Adam Faroqi, Prakasa Tri Andhika, M. Ali Ramdhani, and Inel Lindra
- 10 Traffic Light System Based on FTP Server: Damage Detection and Duration Arranger
Griffani Megiyanto Rahmatullah, M. Reza Hidayat, Susanto Sambasri, Handoko Rusiana Iskandar and Yuda Bakti Zainal
- 14 Softwater Tank Level Monitoring System Using Ultrasonic HC-SR04 Sensor Based on ATmega 328 Microcontroller
M. Reza Hidayat, Susanto Sambasri, Firman Fitriansyah, Atik Charisma, and Handoko Rusiana Iskandar
- 18 Indoor Signal Quality Improvement using Coverage Planning Method in Indoor Building Coverage Simulation
Hajiar Yuliana and Sofyan Basuki
- 23 The Derivation of Matrix Transformation from Pixel Coordinates to Real-World Coordinates for Vehicle Trajectory Tracking
Rina Mardiaty, Edi Mulyana, Iyon Maryono, Koredianto Usman, and Tedi Priatna
- 28 Real-Time Monitoring System for Measurement Of Soil Fertility Parameters in Smart Farming Applications
Lia Kamelia, Mufid Ridlo Effendi, Susanto Nugraha, and Setia Gumilar
- 32 Protecting and Monitoring System for Three Phase Induction Motor
Helpy Susilawati, Akhmad Fauzi Ikhsan, Imam Nawawi and Asep Wandi Priatna
- 37 The IoT-based monitoring systems for humidity and soil acidity using wireless communication
Lia Kamelia, Yuga Setya Nugraha, Mufid Ridlo Effendi, and Tedi Priatna
- 41 Data Communication Design and Implementation for Marine Radio Using UHF Spectrum
Kurniawan Cahyo Hardiyanto, Iskandar, Ian Josep Matheus Edward and Tutun Juhana
- 45 Game Refinement Settings on Idle Games
Yoppy Sazaki, Anggina Pramanita, Siti Zaiton Mohd Hashim and Indri Dwi Ayu
- 51 Marine Radio for Voice Communication System on Very High Frequency (VHF) Spectrum
D.F. Hariyanto, Iskandar Iskandar, I.J.M. Edward and T Juhana
- 57 Broadband Access Using Ethernet over PDH Based Microwave Radio Linkfor Rural Area
Sutrisno and Hanny Madiawati
- 62 A Novel Approach to Calculating Yaw Angles Using an Accelerometer Sensor
Abdurrahman Nurhakim, Mufid Ridlo Effendi, Hendri Maja Saputra, Rina Mardiaty, Tedy Priatna and Nanang Ismail
- 66 The Behavioral Study of an Optical Injection-Locked Semiconductor Laser under the Influence of Intensity and Phase Noise
Gresha Samarakkody, Dushani Munasinghe, Sachinthani Alahakoon, Ajith Kumarayapa and Ruwan Weerasuriya

- 72 The Implementation of The Fuzzy Sugeno Algorithm On an IoT-Based Temperature Monitoring System
Ulfa Putri Bisba, Edi Mulyana, Mohamad Irfan, and Muhammad Ali Ramdhani
- 78 e-Dokuw is A Smart Wallet Identifying Nominal Money Using Homography Estimation Methodes
Dwi Susilo Wibowo, R. W. Tri Hartono, M. Yusuf Fadhlán, Fajri Habibie Suwanda, Ani Wahdah Fauziah, and Jericho P. Tarigan
- 84 Priority Based Multilevel Cache LRU On Named Data Network
Muhammad Putra Pamungkas, Septi Andi Ekawibowo and Nana Rachmana Syambas
- 88 Least Recently Frequently Used Replacement Policy in Named Data Network
Nana Rachmana Syambas, Hamonangan Situmorang, and Made Adi Paramartha Putra
- 92 Modify TOGAF ADM for Government Enterprise Architecture: Case Study in Ethiopia
Chernet Gebayew and Arry Akhmad
- 98 Rectangular Microstrip Yagi Array Antenna for Wifi Applications
Nanang Ismail, Deni Permana, Folin Oktafiani, and Setia Gumilar
- 102 Forwarding Strategy Performance and Effect of Producer Placement on Palapa Ring Topology in NDN Networks
Fahrizal Djohar, Hadi Hasymi and Nana Rachmana Syambas
- 106 Academic Study of Feasibility Coexistence Between 5G Candidate Bands and Existing Service in Indonesia
Septi Andi Ekawibowo and Sigit Haryadi
- 112 Design and Implementation of Model Autonomous Sentry Gun Using Image Processing and Motion Tracking
Eki Ahmad Zaki Hamidi, Mufid Ridlo Effendi and Firman Febrianto Asmoro
- 117 Microstrip Hairpin Bandpass Filter with Dumbbell-DGS for Radar S-Band
Nanang Ismail, Siti Mariah Ulfah, Innel Lindra, Asep Solih Awalluddin, Ida Nuraida and M. Ali Ramdhani
- 121 Security Implementation of the Internet of Things Using the Advanced Encryption Standard (AES) Algorithm
Diana Nurmalasari, Edi Mulyana and Mohammad Irfan
- 125 Improving Arabic Stemmer: ISRI Stemmer
Mochamad Gilang Syarief, Arief Fatchul Huda, Opik Taopik Kurahman and Wahyudin Darmalaksana
- 129 Low Complexity MIMO-SCMA Detector
Dayat Kurniawan, Mohammad Sigit Arifianto and Adit Kurniawan
- 134 Indoor Propagation Environmental Profile Analysis at 2300 MHz
Sandryones Palinggi and Dr. Iskandar
- 138 A Systematic Literature Review on Virtual Reality for Learning
Candra Kurniawan, Yusep Rosmansyah, and Budiman Dabarsyah
- 142 Design and Implementation Supervisory Control and Data Acquisition (SCADA) of Flocculation Process of Water Treatment Plant (WTP) by Using Raspberry Pi
Eki Ahmad Zaki Hamidi, Mufid Ridlo Effendi, Tiara Gustiana and Pajar Abdul Malik Hambali

- 147 Comparison of Time-domain Measurement Techniques for Interference Analysis in Power Line Communication
Maarten Appelman, Muhammad Ammar Wibisono, Wervyan Shalannanda, Niek Moonen and Frank Leferink
- 152 Analysis Partition Clustering and Similarity Measure on Al-Quran Verses
A.F. Huda, Moch R. Deyana, Q.U. Safitri, Wahyudin Darmalaksana, Ulfa Rahmani, and Mahmud
- 157 Effect of DGS Utilization on Characteristics of Square shaped CSRR-Based SIW BPF
Abdul Latip, Nanang Ismail, Opik Taupik Kurahman and Achmad Munir
- 161 Triple-Band Microstrip Patch Antenna Made of Artificial Magnetic Conductors
Siti Sarah Hardianti, Nanang Ismail, Eki Ahmad Zaki Hamidi and Achmad Munir
- 165 Characterization of Artificial Dielectric Material Implementation on Square Patch Antenna
Intan Novianti, Nanang Ismail, Mahmud and Achmad Munir
- 169 Power Divider with Sequential Phase for X-Band Array Antenna Feeding Network Application
Taufik Muhamad, Azwar Mudzakkir Ridwan, Nanang Ismail, Ahmad Sarbini, Lia Kamelia, and Achmad Munir
- 173 Development of GPS Transceiver for Quadcopter-based Emergency Locator Beacon
Asep Najmurokhan, Kusnandar, Udin Komarudin, Ahmad Daelami, Axsal Gilang Suryanto and Achmad Munir
- 177 Feature Selection using k-Medoid Algorithm for Categorization of Hadist Translation in English
Firda A. Setiawati, Q.U. Safitri, A.F. Huda, Aep Saepulloh and Wahyudin Darmalaksana
- 182 Power Amplifier for RF Long Range Wide Area Monitoring and Control of Urban Farm
Mukhtar Amin, Basuki Rachmatul Alam, Wervyan Shalannanda
- 186 Hybrid Reduction Dimension on Clustering Text of English Hadith Translation
N. Priatna, A.F. Huda, Q.U. Safitri and Wahyudin Darmalaksana
- 191 Analysis of Fuzzy C-Means Algorithm on Indonesian Translation of Hadits Text
Rizky Sam Pratama, Arief Fatchul Huda, Agung Wahana, Wahyudin Darmalaksana, Q.U. Safitri, and Ali Rahman
- 196 IoT System Implementation for ATmega328 Microcontroller Based Home Door Control
Yamato Tan, Anton Setiaji, Evyta Wismiana, Mochamad Yunus, Mufid Ridlo Effendi and Achmad Munir
- 200 Design of Linear Array Triangular Patch Antenna for Mobile Communication
Mochamad Yunus, Jalaludin, Evyta Wismiana, Yamato Tan, Eki Ahmad Zaki Hamidi and Achmad Munir
- 204 Implementation of Digital Images Using the Chain Code Method to Calculate the Area and Circumference of 2-Dimensional Objects
Ivan Septamihardja Prawira, Diena Rauda Ramdania, Arief Fatchul Huda, and Mohamad Irfan
- 210 Making a Batik Dataset for Text to Image Synthesis Using Generative Adversarial Networks
Aifa Nur Amalia, Arief Fatchul Huda, Diena Rauda Ramdania and Mohamad Irfan
- 217 Build a BTS VoIP Kit for Android-based Communication Needs (Handset)
Fadli Emsa Zamani, Khaerul Umam, Widodo Dwi Ismail Azis, Muhibudin Wijayalaksana, Wawan Setiawan Abdillah, Rina Mutiarawati, Hamdan Sugilar and Ferli Septi Irwansyah

- 223 The Effectiveness of Using Edmodo as Online Media on Students' Outcome in Reading Course
Hapid Ali, Dudang Gojali, Wahyudin Darmalaksana, A.H. Fathonih, Sajidin and Teti Ratnasih
- 229 The Application of Assignment Problem Optimal Solution Using Ones Assignment Method in the Curriculum Developer Team
Elis Ratna Wulan, Dindin Jamaluddin, A Heris Hermawan and Teti Ratnasih
- 235 Chatbot Application on Internet of Things (IoT) to Support Smart Urban Agriculture
Reza Gunawan, Ichan Taufik, Edi Mulyana, Opik T Kurahman, Muhammad Ali Ramdhani, and Mahmud
- 241 Designing a Data Logger Monitoring System Prototype on Automatic PlantSprinklers
Muhamad Derisa, Edi Mulyana and Sony Sumaryo
- 248 Digital Monitoring and Evaluation System Research Process
Muhammad Ali Ramdhani, Wahyudin Darmalaksana, Dian Sa'Adillah Maylawati, Ferli Septi Irwansyah, Hamdan Sugilar, Widodo Dwi Ismail Aziz, Ali Rahman, and Eka Rahayu Ningsih
- 252 Design Truncated Corner Rectangular Patch Antenna with Multiple Slot Used in High Altitude Platform Station
Ryan Fikri, Dayat Kurniawan, and Iskandar
- 256 Quizizz Online Digital System Assessment Tools
Nur Rahmah, Alia Lestari, Lisa Aditya Dwiwansyah Musa and Hamdan Sugilar
- 260 Implementation of Service Level Measurement Based on System Uptime Sensor of Network Device in Internet Connection Service
Beni Rio Hermanto, Iskandar Iskandar, Hendrawan Hendrawan, and Ian Joseph Matheus Edward
- 264 Design and Implementation of Web Application on Air Pollution Monitoring System Using Wireless Sensor Network Based on HAPS
Moh. Bimo Adha, Iskandar Iskandar, Hendrawan, and I. Y. M. Edward
- 269 Design and Implementation of HAPS on Air Pollution Monitoring System
Eka A.C. Kusuma and Iskandar Iskandar
- 273 Design and Implementation of Nodes on Air Pollution Monitoring System Using Wireless Sensor Network Based on HAPS
Martin Rinaldy and Iskandar Iskandar
- 277 Analysis Operation NLSR With Ubuntu as NDN Router
Angga Friyanto, Nana Rachmana Syambas and Tody Ariefianto
- 281 Experiment OLSR Routing In Named Data Network for MANET
Taufik Irfan, Tody Ariefianto W., and Nana Rachmana Syambas
- 285 Data Streaming and Visualization Results of Object Detection Systems (Case Study of Human Object)
Muchammad Azhar Nurkemat, Eueung Mulyana, Andriyan Bayu Suksmono, Adrie Taniwidjaja and Wervyan Shalannanda
- 288 Design of Object Detection System Using Radar Device AWR1642 (Case Study of Human Object)
Azka Tujza, Eueung Mulyana, Andriyan Bayu Suksmono, Adrie Taniwidjaja and Wervyan Shalannanda
- 292 Design and Simulation of C-Band Antenna for Portable Ground Surveillance Radar
Wervyan Shalannanda and Tommi Hariyadi