2016 International Conference on Advanced Materials for Science and Engineering (ICAMSE 2016)

Tainan, Taiwan 12-13 November 2016



IEEE Catalog Number: CFP16J33-POD

978-1-5090-3870-1

ISBN:

Copyright © 2016 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:
 CFP16J33-POD

 ISBN (Print-On-Demand):
 978-1-5090-3870-1

 ISBN (Online):
 978-1-5090-3869-5

Additional Copies of This Publication Are Available From:

Curran Associates, Inc 57 Morehouse Lane Red Hook, NY 12571 USA Phone: (845) 758-0400

Phone: (845) 758-0400 Fax: (845) 758-2633

E-mail: curran@proceedings.com Web: www.proceedings.com



Table of contents

Editorial	iii
Table of contents	V
Design of a Joint Balancing Instrument and Its Application in Artificial Ankle Joint Replacement Surgery Ya-Chu Chang, Pei-Yu Chen	1
High Power LED Light-Distribution Model Hau-Chen Yen, Hung-Liang Cheng, Wei-Po Lin	5
Estimating Direction of Arrival for Coherent Signals by Using Projection Subspace without Source Number Information Ya Ling Chen, Chien Chou Lin	9
Photocatalytic Study of Zinc Oxide with Different Bismuth Doping Ming-Chang Shih, David Jui-Yang Feng, Yu-Xuan Ding, Yi-Jen Chiu, Yung-Jr Hung, Wen-Jen Lin, Shao-Yi Lee, Jia-Ching Lin, Kuo-Jen Chang, Mu-Chun Wang, Chien-Jung Huang, Wen-How Lan	13
Comparison of the Innovation Strategies of Science Park between France and Taiwan Ming-Ling Yang	15
A Research on User Satisfaction on the Space of the Township Administration Buildings Tian-Yow Chern, Wei-Ling Hsu	19
A Research on Community Participation in Eco-tourism of Aboriginal People in Taiwan Shr-Wei Luo, Yee-Chaur Lee	23
Applying the Fuzzy Delphi Method to Preservice Training Courses for Tour Guides in Taiwan Wei-Ling Hsu, Huan-Siang Luo, Shyue-yung Ho	27
A Study of the Commercial District in the Ruins of St. Paul's Po Hsun WANG, Wan Chun LI	31
A Study on the Satisfaction with the Service Quality by Land Administration Agent in Taiwan <i>Tian-Yow Chern, Wen-Te Chen</i>	35
Preliminary study on the five-sense spatial prototype in Taiwan's old street regeneration <i>Lin Chen, Yi-Yin Tsai</i>	39

Blind CFO Estimation Based on Computationally Efficient Subspace-based Estimators with Real-Valued Implementation for Interleaved OFDMA Uplink Ann-Chen Chang, Wei Zhang	43
Blind CFO Estimation Based on GSA for Interleaved OFDMA Uplink Ann-Chen Chang, Yi-Ning Wang	47
A Low-cost R-type Fire Alarm System for Old Houses Song-Shyong Chen, Luke K. Wang, Wei-Hsuan Li, Wen-Ping Chen	51
A Study of How Red is Expressed in Song CI Ying-Chen CHENG, Chi-Hsiung TSENG	55
Ergonomic Evaluation of New Wrist Rest on Using Computer Mouse Bor-Shong Liu, Kuo-Nan Huang, Hung-Jen Chen, Kai-Chin Yang	59
The Impact Factors of Sustainable Design and Development for Plastic Mold on Product Servitization Yu-Chen Huang, Jui-Che Tu, So-Jeng Hung	62
Exploring the Spatial Concepts and Abilities of Indigenous Atayal Elementary School Students in Taiwan Jen-Yi, Chao, Chuan-Hsi, Liu, Lo-Yi, Yao	65
The Study of 3D Printing Project Course for Indigenous Senior High School Students in Taiwan Jen-Yi, Chao, Hsin-Yu, Po, Yin-Sen, Chang, Lo-Yi, Yao	68
Tribological properties of SUJ2 steel sliding against Al-Si alloys: role of content of silicon Yuh-Ping Chang, Zi-Wei Huang, Huann-Ming Chou	71
Use of a Digital Game Based Tang Poetry Learning System to Improve Learning for Children in Nursery School Po Jen Hsiao, Chien Shun Lo	75
A New Mobile On-line Mutual Authentication Scheme Sung-Shiou Shen, Shen-Ho Lin, Tsai-Hua Kang, Wei Chien, Chien-Ching Chiu	79
The Study for Selecting the Cloud Service Consignment Performance in Group Decision of Shared Inventory Resource in Traditional Garments Industry Wei Chien, Tsai-Hua Kang, Sung-Shiou Shen, Chien-Ching Chiu	82
Improving the step of container heating and hot air circulation Min-Hsiung Ma, Ku-Chin Lin	85
Mechanical Designs, Energy Management, and Performance Assessment of a Novel Hybrid Electric Scooter Yi-Hsuan Hung, Shao-Wei Chang, Wei-Ting Hsiao, Siang-Ting Huang, Lu-Jung Wang, Cheng-Ta Chung	88
Applying an Assisted Assessment Guide to the Networked Peer Assessment for Enhancing Student Achievement Chien-I Lee	92

Discussion of the Lottery Mechanism for the Profit Model of the Mobile Game- Taking Cygames as an Example Kuo-kuang Fan, Sheng-yang Jiang	96
Design Fundamental Training with the Notion of "Form Emerges From Meaning" <i>Tsai-Lin Yang, Ming-Chyuan Ho</i>	99
The Role of Habit in People's Use of Mobile Platforms Kuan-Yu Lin, Yi-Ting Wang	103
Application of Service Experience Engineering to Develop a Recommender System of Safety Training- Using Building Construction with Context-Aware as an Example <i>Chun-Ling Ho</i>	107
The effectiveness of gardening game design for the upper extremity function of Stroke patients Lan-Ling Huang, Mei-Hsiang Chen	110
A Brief Analysis of Chinese and Western Cultural Differences in Animated Films featuring Chinese Elements Feng Tingting, Kuo-Kuang Fan	113
Analyzing Key Factors of Consumer's Acceptance For Defected Fruits and vegetables Wei, Miao-Yu, Tu, Jui-Che	116
Preparation and characterization of epoxy/vermiculite nanocomposites Chen-Sian You, Cheng-Fu Yang, Wei-Ting Tsai, Song-Mao Wu, Chean-Cheng Su	119
A Physics-Based Drain Current Compact Model for a-InGaZnO Thin-Film Transistors Fei Yu, Kun Fang, Tsair-Chun Liang	121
Study on the Influence of the Expression Effect of Green Public Service Advertising on the Viewers Brought by Its Appeal Method <i>Cheng-Hsueh Yang, Jui-Che Tu</i>	124
A Personal Word-Hiding Video Caption System on English Vocabulary Learning for Elementary School Students Chien-I Lee, Ying-Chih Huang, Yi-Chun Lin	128
The Development of a Music Rhythm Game with a Higher Level of Playability Chun Han Chen, Chien Shun Lo	132
Analyzing the Differences of Design between Chinese and Western Social Media <i>Jia-xiang Chai, Kuo-Kuang Fan</i>	136
Improving the Performance of Sagnac Interferometer for Debris Flow Monitoring System Chen-Tai Cheng, Hsi-Shan Huang, Tsair-Chun Liang	139
The Study in the Design of Pregnant Women's Underwear Weiting Hsiao, Changfranw Lee, Wenlung Chang	143
A Study on the Double-Beam Laser Scribing Process for CIGS Thin Film Solar Cells <i>Pei-Ju Chiu, Jao-Hwa Kuang, Ah-Der Lin, Chao-Ming Hsu</i>	147

Study Computational Simulation and Experimental of Tee-Joint by Visual-Weld Software and Tungsten Inert Gas Welding Process Van Nhat Nguyen, Quoc-Manh Nguyen, Shyh-Chour Huang	151
Study on Plane Carrier Art of Chinese Ancient Lacquer Culture Xue-Hui LI, Kuo-Kuang FAN	155
Researching The Change of Brainwave of Students With Using Wearable EEG to Drawing Coloring Books Wang, Cheng-Hung, Shih, Yu-Huan	159
Researching the adolescent visual color perception and brain wave in dynamic images Cheng-Hung Wang, Yu-Huan Shih, Ying-Chin Lo, Chia-Yi Huang	162
The Challenge of Puppet Show Improvises in Interactive Stage Shih-Mo Tseng, Chao-Ming Wang	165
Construction of Perfume Bottle Visual Design Model Based on Multiple Affective Responses Hung-Yuan Chen, Kuo-Li Huang	169
Pull-in Instability of a Probe-Ring Typed Membrane Assembly Subjected to Electrostatic Force Shueei-Muh Lin, Shu-Jhang Lee	173
Intelligence System for Evaluation the Multi-dimension Abilities of Occupational Bus Driver Ting-An Kuo, Chiuhsiang Joe Lin	177
Case Study of The development App of infographics designwith mobile augmented reality Chen-Chiou Chiu, Cheng-Ta Lee, Lai-Chung Lee	181
Multi-objective optimization for UWB antenna array by GA algorithm Wei Chien, Chien-ChingChiu, Sung-Shiou Shen, Tsai-Hua Kang	185
Continuous Intention formation in E-tutoring system: examining the roles of self-determined motivators, social and technological influences <i>Yu-Chiung Hsu, Ya-Ming Shiue, Meng-Huei Sheng</i>	188
Digital Hardware Implementation of a Sensorless Speed Controller for PMSM Drives Using HF Signal Injection and EKF Hoang Than, Ying-Shieh Kung, Liang-Chiao Huang	192
Vehicular Cloud Network and Information Security Mechanisms Hsin-Te Wu, Gwo-Jiun Horng	196
A Study on Warm-up Pattern of Animation Marketing Li Qing, Wu Linqi	200
A novel structural design of wireless lithium-ion battery management system (BMS) by using pulse width modulation method for charging and discharging Ching-Wu Wang, Li-Jie Lu, Zhong-Xun Chi, Jia-Lin You	204
A Discussion of the Significance of the World Heritage Site: Dayan Ta Huei-Ling Kao, Huann-Ming Chou, Hwo-Ching Chang	207

An Analysis of the Characters in Xiyou Ji through the Lens of Yogācāra Buddhism Wei-Hsuan Fan, Huann-Ming Chou	211
Pristine Wisdom and Consciousness: A comparison between the Cheng weishi lun and the shentong view of the Jonang school Ling-Tze Chao, Huann-Ming Chou	215
Architecture-Oriented Design Method for Smart Tourism Innovative Service Systems Rui-rui Chen, Shuh-Ping Sun, William S. Chao	219
Optimal Expansion Planning of MRT Traction Substations by Using Immune Algorithm Hui-Jen Chuang, Wei-Jie Liao	223
A Novel Electronic Lock Using Ultrasound Morse code Based on FIR Filter Chin-Tan Lee, Chia-Chun Wu, Bo-Rui Su, Tung-Chun Shen	227
Chaos Synchronization Underlying Zero-Dispersion Nonlinear Resonance Chia-Ju Liu, Ming-Chung Ho, Hsiu-Chen Wu, Tsung-Lun Tsai, Ming-Chi Lu	231
Mutual Inductance Effect of Two Chua's Circuit Induce Phase Synchronization Chia-Ju Liu, Feng-Wei Tsai, Chun-Shen Hsu, Jia-Chu Lee, Ming-Chi Lu, Chen-An Chan, Ming-Chung Ho	235
The Effect of Plant Capacitance Perturbation on Chua's Circuit Chia-Ju Liu, Chih-Hung Yang, Siao-Jing Yen, Ming-Chi Lu, Yan-Lin Jhone, Cheng-Liang Lu, Ming-Chung Ho	238
Development of a Digital Game-Based Learning System in Music Learning Yu-Chen Liang, Ya-Ming Shiue, Yong-Ming Huang, Chuan-Gang Liu	241
The dynamical behavior of self-mixing by Doppler feedback in single-mode microchip Nd:YAG laser Chia-Ju Liu, Tzu-Fang Hsu, Chen-An Chan, Tien-Tang Chang, Ming-Chi Lu, Feng-Wei Tsai, Ming-Chung Ho	245
Detrended Partial Cross-Correlation Analysis of age-related changes Chia-Ju Liu, Yan-Lin Jhone, Chih-Chieh Hsu, Pei-ching Teng, Ming-Chi Lu, Chih-Hung Yang, Ming-Chung Ho	248
ANovel Data Structure for Adversarial VNet embeddings Attack in Cloud Chuan-Gang Liu, Tay-Jiun Fang, I-Hsien Liu, Jung-Shian Li, Yu-Chen Liang	251
The Fuzzy Design of the Energy-Saving Lamps base on the Internet of Things Chin-Tan Lee, Tung-Chun Shen, Tsung-Hsien Hsu, Ko-Wei Weng	255
Sleeping Detect Using Wearable Device by PPG Yan-Hang Lee, Hsien-Wei Tseng, Yu-De Liao, Ting-Wei Lin, Yi-Lun Chen	259
Effect of Sintering Temperature on the Photoluminescence Characteristics of the Nd ₂ O ₃ -Doped Sr ₂ SiO ₄ Phosphor Chien-Chen Diao, Jing Liu, Cheng-Fu Yang, Chin-Guo Kuo, Cheng-Yi Chen, Yun-I Ho	263
Efficiency Comparison on Different Network Real Time Kinematic Systems Hung-Lin, Tsung-Yi Lin, Gang-Long Yen	267

Investigation on Image Precision for Camera Parameters Using Target and Target-Free Calibration Hung-Lin Lin, Tsung-Yi Lin, Li-Wei Chen, Chia-Chang Huang, Chiao-Yi Lin, Chia-Mei Li, Wan-Ni Huang	271
Development of an Upper Limb Rehabilitation System using Inertial Movement Units and Kinect device Pei-Jarn Chen, Yi-Chun Du, Cheng-Bang Shih, Li-Cheng Yang, Hui-Ting Lin, Shih-Chen Fan	275
Assessment Improvement of Visual Comfort Using Computational Simulation - a case study in a Light-Controlled Classroom Hsin-Yi Shih, Yu-Tuan Chou, Shao-Yi Hsia, Bi-Wen Lee, Gung-Yu Su	ı 279
A strategic model of design approaches for housing development in Taiwan Kuo-Hsun Wen	283
A Preliminary Investigation into the Principle of Psychological Dissection Revealed in the Writings of Xuanzang <i>Li-Chen Tsai, Huann-Ming Chou</i>	287
The Contribution of Xuanzang's Great Tang Records on the Western Regions to Academic Studies Jui-Wen Yu, Huann-Ming Chou	291
Design and experimental verification of an active energy management module for a three-energy-source electric vehicle <i>Yi-Hsuan Hung, Tzu-Cheng Chou, Cheng-Yen Lee, K. David Huang</i>	293
Utilization of Simulated Annealing Method for Optical Design of a Thin Rectangular Small-Size Edge-Type Hollow-Cavity LED Luminaire Chih-Chieh Kanga, Jeng-Feng Linb, Tong-Ruel Guo	e 297
The Journey to the West Metaphors: From the perspective of Yogācāra Buddhism and the path to Buddhahood <i>Wei-Hsuan Fan, Huann-Ming Chou</i>	301
Campus Greenhouse Monitoring with A Simple ZigBee-Based Sensor Network Chin-Feng Tsai, King-Chu Hung	305
Dimensional Acupuncture Therapy in Clinical Application of Brachial Plexus Injury Jung-Jung Wen, Huann-Ming Chou	309
An Analysis of the main Characters in Xiyou Ji through the Lens of True Consciousness-Only Realization Huei-Ling Kao, Huann-Ming Chou	313
The Impact of Scriptures Translated by Xuanzang on the East Asian Cultural Innovation – Buddha statues as an example <i>Chih-Wei Pai, Huann-Ming Chou</i>	316
Estimation of the Output of Taiwan's Visual Arts Industry Chih-Wei Pai, Huann-Ming Chou	319

The Contribution of Xuanzang's Great Tang Records on the Western Regions to the Research of Religious Culture Ta-Chang Kuo, Huann-Ming Chou	322
Estimation of the Output of Designer Fashion Industry in Taiwan <i>Ta-Chang Kuo, Huann-Ming Chou</i>	325
A Research on the Target Audience of Xuanzang's Great Tang Records on the Western Regions Pei-Ying Ou, Huann-Ming Chou	328
Output Estimates on Taiwan Architectural Design Industry Pei-Ying Ou, Huann-Ming Chou	330
The Economic and Trade Development in Central and Southern Asia during the Early Period of the Tang Dynasty Kuan-Ling Lai, Huann-Ming Chou	333
Output Estimates on Taiwan's Cable TV Industry Kuan-Ling Lai, Huann-Ming Chou	335
Why the Western National Boundary during the Early Period of the Tang Dynasty Extended Only to Gaochang Yi-Ren Chiu, Huann-Ming Chou	339
Estimation of the Output Value of Taiwan's Product Design Industry Yi-Ren Chiu, Huann-Ming Chou	341
Estimation of the Output Value of Taiwan's Digital Content Industry Jui-Wen Yu, Huann-Ming Chou	344
Estimation of the Output Value of Taiwan's Creative Living with Tea Industry Wei-Hsuan Fan, Huann-Ming Chou	347
Estimation of the Output Value of Taiwan's Publishing Industry Huei-Ling Kao, Huann-Ming Chou	351
Estimation of the Productivity Value of Taiwan's Music and Performance Arts Industry Jung-Jung Wen, Huann-Ming Chou	354
Estimation of the Output Value of Taiwan's Creativity Lifestyle Industry Ling-Tze Chao, Huann-Ming Chou	357
Estimation of Output of the Cultural Performance and Exhibition Facilities Industry in Taiwan Li-Chen Tsai, Huann-Ming Chou	360
An Estimation of the Output Value from Taiwan's Cultural and Creative Industries <i>Huann-Ming Chou, Jiin-Ming Fahn, His-Hwei Lo</i>	364
Estimation of the Output Value of Taiwan's Film Industry Tien-Feng Hsu, Huann-Ming Chou	368
Estimation of the Output Value of Taiwan's Advertising Industry Chien-Yuan Chen, Huann-Ming Chou	371

Estimation of the Output Value of Taiwan's Popularular Music and Cultural Content Industry Hui-Yuan Liu, Huann-Ming Chou	374
Design of Compact Printed 2.4 GHz Band-pass filter using LC resonator <i>Ja-Hao Chen, Shih Siang Liao</i>	377
The Development of Indoor Positioning Aerial Robot Based on Motion Capture System Jie-Tong Zou, Chi-Yi Wang, Yueh Min Wang	380
Depth sensor used in vehicle-related patent analysis Ling-Feng-Lai, Jinn-Feng Jiang, Hung-Yuan Wei, Kuei-Shu Hsu	384
A Cultural Tour and Representation of Creativity – Commentary on the Orientation and potential influence of the Tainan Photography Festival <i>Chiu Kuo-Chun</i>	388
Creative Design Resource Integration Model:Comic Design Element for Collaborative Sharing Education Shang-Te Tsai	390
Exploring the most critical interplays of mobile-applications in the purchaser's decision and behavior procedures Chih-Cheng Huang, Jiin-Chyuan Lai, Chun-hua Chen, Wen-Cheng Huang, Ming-Yuan Hsieh	394
Attack Detection of Distributed Denial of Service Based on Splunk Te-Jen Su, Shih-Ming Wang, Yi-Feng Chen, Chao-Liang Liu	397
Fabrication and Characterization of GaN Ultraviolet Photodetector Prepared by Growing on Geometrical Patterned Sapphire Substrate Kuan-Ting Liua, Shoou-Jinn Chang, Sean Wu	401
An Investigation into the Use of Virtual Reality Technology for Passenger Infotainment in a Vehicular Environment Shu Wang, Vassilis Charissis, Julie Campbell, Warren Chan, David Moore, David Harrison	404
The complexity and recognizable information business trademarks design applied fractal analysis and fractal dimension <i>Yu-Lin Hsu</i>	408
The Analysis of the Relationship between Cultural Factor and Second Language Acquisition <i>Jiin-chyuan Lai, Tsui-lien Shen, Ming-yuan Hsieh</i>	412
UV-induced Grafting Polymerization of NIPAAm Hydrogel and Deposit ofHydroxyapatites-like Films on Polymer Surface by Atmospheric Plasma Treatment <i>I-Yun Cheng, Shu-Chuan Liao, Ko-Shao Chen, Mu-Rong Yang, Ming-Tse Lin, Yao-Chung Liu</i>	416
Photoluminescence Characteristics of Perovskite Eu-Doped (Ba _{0.9} Sr _{0.1})ZrO ₃ Ceramic Kun-Neng Chen, Jia-Chun Zheng, Chien-Chen Diao, Cheng-Fu Yang, Yi-Tang Chiu	419
Improvement on Matching Breakage of Multi-View Stereo 3D Reconstruction Hung-Lin Lin, Tsung-Yi Lin, Yi-Xuan Li, Yu-Sheng Tseng, Xin-Yi Li, Qlan-Wen Cal, Zheng Chen, Yi-Rou Shi	423

An Approach for Improving the Precision on Short-Range Electronic Distance Measurement Trigonometry Hung-Lin Lin, Tung-Chiung Chang, Chih-Wei Hou	426
Applied the gray theory for groundwater level supplement in Jiao-Shi hot spring area, Taiwan Jung-Wei Chen, Lih-Huey Kang, Hung-Lin Lin	430
Estimation the Hot Spring Recharge Using Groundwater Numerical Model in Jiao-Shi Area, Taiwan Jung-Wei Chen, Hung-Ting Kuo	434
Beacon applications in information services Ding-Yu Liu, Chia-Sui Wang, Kuei-Shu Hsu	438
Combined with augmented reality navigation applications in the library Ding-Yu Liu	441
A Proposed Social Design Plan for Laiji Village Hwang, Shyh-Huei, Huang, Hsiu-Mei	444
Engineering Teaching Courses Leading-in Creativity which Demands Teaching Situation and Element Analysis Li-Wan Ting, Giffen-Cheng	448
Unity 3D production and environmental perception vehicle simulation platform Chi-Wen Yang, Tsung-HanLee, Chien- Lung Huang, Kuei-Shu Hsu	452
An exploratory study on GIS-mediating students' understanding of history: A case of mobile learning Kuo-Hung Huang, Hsin-Chun Liu	456
Investigating elementary students' epistemological beliefs, game preference by applying game-based learning to a history course Ya-Ming Shiue, Yu-Chiung Hsu, Yu-Chen Liang	460
Developing a Psychology-based Evaluation Procedure for Emotional Clips in Films Xiao-Jing Yu, Chang-Tzuoh Wu	463
Research on crossing safety protection system based on adaptive Radar Technology <i>Qiu-ping Luan, Wei Song, Wen-xiu Li, Ying Li</i>	467
Building Up New Product Development Strategy by Product Pricing and Marketing Analysis Chart Shih-Yen Huang	471
A Framework of Cloud-based Collaborative Platform to Integrate Product Design Requests and Contradiction Analysis Tien-Lun Liu, Yi-Chen Li, Ming-Liang Li	475
Broadband dispersion compensating photonic crystal fiber with a high compensation ratio	479

Streamlining the Histogram Equalization of Digital Images by Using Decimation Approach Chih-Hung Lee, Hao-Ying Lu, Ji-Hwei Horn	482
A Novel Translation, Rotation, and Scale-Invariant Shape Description Method for Real-Time Speed-Limit Sign Recognition Chi-Yi Tsai, Hsien-Chen Liao, Yen-Chang Feng	486
In the Digital Future: Revitalizing Library Management System in Afghan Educational and Cultural Settings Mohamamd Hanif Gharanai, Samiullah Paracha	489
An Innovative IT Support and Ticketing System for Ministry of Higher Education Mohammad Ali Jaweed, Samiullah Paracha	493
Analyzing Information Communication Technology and Management Failures in Afghan Dynamics Nohzatullah Ahmadzai, Samiullah Paracha	497
Quench Limit Cycle Using Different Dither SignalIn A Servo Motor System Seng-Chi Chen, Elisabeth Tansiana Mbitu	501
Using Digital Storytelling to Enhance Elementary School Students' Creative Thinking Feng-cheng Chiang, Ching-ya Chiu, Zhen-hui Su	505
Mobile Outdoor Augmented Reality Project for Historic Sites in Tainan Pey-Yune Hu, Pei-Fang Tsai	509
Exploration of Video Art and Color Vision: The Application of Image Change in Digital Interaction CHENG-HUNG WANG, YING-CHIN LO, CHIA-YI HUANG	512
Interactive Audio-Visual Performance System Controlled by Smartphone Based on Arm Movements Chien-Wen Cheng	516
Stabilizing Controller Design using Fuzzy T-S Model on Two Wheeled Self-Balancing Vehicle <i>Jia-Rui Cao, Chih-Peng Huang, Jui-Chung Hung</i>	520
SDN-Based Resource Allocation Scheme in Ultra-Dense OFDMA Smallcell Networks Ming-Chin Chuang, Meng Chang Chen, Yan-Hao Lin	524
Filamentary Conduction in Resistive-Switching ZrO ₂ Chun-Hung Lai, Hung-Wei Chen, Chih-Yi Liu	528
Virtual Reality Intervention: A Promising Deterrent to Children's Drug Addiction Mohammad Nazim Kabiri, Samiullah Paracha	530
GA-SVM Classifying Method Applied to Dynamic Evaluation of Taekwondo Ming-Hong Zhong, Jui-Chung Hung, Yi-Chin Yang, Chih-Peng Huang	534

USING GAZE ANALYSIS FOR LEARNING ANALYTICS TO ASSESS LEARNERS OF MATHEMATICS MWANA, Said Omar, ARACHA, Samiullah	538
In Search of the Right Way to Design: A Strategic Toolbox for SME Industrial Designers <i>Kim C. K. Lee</i>	542
Development of a Simple Piezomotor Driven by Traveling Wedge Waves <i>Tai-Ho Yu, Yun-Jyun Jhang</i>	546
A New SSVEP based BCI Application on the Mobile Robot in A Maze Game Chung-Min Wu, Yeou-Jiunn Chen, Ilham A. E. Zaeni, Shih-Chung Chen	550
Using Functional Analysis Diagrams for Production Cost Optimization Ioannis Michalakoudis, Peter Childs, James Harding	554
An Optimal Disk Allocation in Cloud Virtual Machine Deployment Li-Shing Huang, Hsin-Hung Chen, Jian-Bo Chen, Tsang-Long Pao	558
Denoising of Mixed Noises in ECG with Separate Noise Estimators based on Discrete Wavelet Transform Ching-Haur Chang, Tsung-Min Wang, Han-Lin Hsu	562
Segmented Innovation to Drive Interdisciplinary Design Efforts Frank M. Washko	565
e-PAZ: Identifying Potential Conflicts via a Robust Early Warning System Antonio Reginaldo Francisco, Samiullah Paracha	569
The Application of a U-shaped Whispering-Gallery Mode-based Optical Fiber Sensor for Glucose Measurement Chen-Tung Wang, Chia-Chin Chiang	573
Development of a Shunt Compensator for Power Flow Balancing in A Distribution-Level Microgrid with Distributed Generation Units Wei-Neng, Chang, Hsuan-Yi, Pan	577
Using Wearable EEG to Research The Change of Brainwave of Teenagers Drawing Pictures with Mandala Art Wang, Cheng-Hung, Huang, Yu-chen, Shih, Yu-Huan	581
A novel electronic lock using optical Morse code based on the Internet of Things Chin-Tan Lee, Tung-Chun Shen, Win-Der Lee, Ko-Wei Weng	585
Color Feature Extraction and Selection for Image Retrieval Chun-Wei Liang, Wen-Yu Chung	589
The Effect of Using Rice Husk Ash as Filler on Moisture Susceptibility of Asphalt Mix Raja Mistry, Tapas Kumar Roy	593
The Simulating Modeling by Dynamical Mechanism with Perceptron and Stochastic Logic Pao-Kuan Wu, Tsung-Chih Hsiao, Ming Xiao	597

A novel printhead multiplexer data registration chip system <i>Jian-Chiun Liou, Te-Jen Su, Wei-Jie Wen, Wen-Chieh Lin</i>	601
Efficiency Enhancement of Single Crystal Silicon Solar Cell with POCL ₃ and Wafer Optimally Controlled by PECVD Method <i>Chin-Sung Hsiao, Cheng-Li Hsieh</i>	605
Identifying Reading Disorders Via Eye-Tracking Technology Ayaka Inoue, Samiullah Paracha	607
Body Weight Measurement Based on Bending Losses of Single-mode Fiber Optic Loops Tsair-Chun Liang, Hsi-Shan Huang, Tung-Yi Kuo	611
The Performance and Impact of Applying Lotus Blossom Technique in Teaching on Creative Problem Solving Tsui-lien Shen, Jiin-chyuan Lai, Ming-chang Tsai	614
A Study on the Relation between Folk Art and Drama Taking Changle Story as an Example <i>Kuang Ruiying</i>	618
On the Creating of Integrative Water-Sound-Light Landscape in Jiangnan Gardens XU Li, Chiou, Shang-Chia	621
Design of a Mechanism for Ball Positioning, Orientating, and Surface Image Capturing Fu-Wen Hu, Ku-Chin Lin	625
The application of the holographic laser projection in the entertaining performance <i>Nan Liang</i>	629
Survey into User's Usage Feeling towards Material Design Button in the Website WENG, SHU-YI, Fan, Kuo-Kuang	632
From the Perspective of Editing Design to Explore Design Modes of Interactive E-books <i>Ming-Yu Shao, Chao-Ming Wang</i>	636
Application of a Touch Panel for Control of a Six-axis Robotic Arm Pu-Sheng Tsai, Ter-Feng Wu, Nien-Tsu Hu, Jen-Yang Chen	640
Research and Implementation of Auto Parking System Based on Ultrasonic Sensors Ter-Feng Wu, Pu-Sheng Tsai, Nien-Tsu Hu, Jen-Yang Chen	643
Study on the Use of Wearable Devices to Control Objects in Virtual Reality Hsin-Fu Chien, Nien-Tsu Hu, Pu-Sheng Tsai, Ter-Feng Wu, Jen-Yang Chen	646
A Breathe Regulator Used to Improve the Breathe Obstacle When Sleeping Jih -Fu Tu	649
Post thermal effect of electrodeposited Manganese oxide electrode on their morphologies and capacitance performance Lung-Chuan Chen, Zao Chen, Yu-Hui Huang, Hua-Sung Hou	653

Application of CAD/CAE/3D Printing to Development of Magnetic Foldable Hanger <i>Chi-Yuan Hsia, Shao-Yi Hsia, Yu-Tuan Chou</i>	657
Conversion Efficiency Estimation for an Interleaved High-Step-Up Converter Chih-Lung Shen, You-Sheng Shen	661
Research on the Difference of Architecture Color Harmony and Color Preference between Observers with and without Professional Background <i>Li Kerun, Zhang Caijin, Wang Yao</i>	665
On the New Trend of Ink Animation Techniques in Digital Age Liu Manzhong, Yang Xuemei	669
The Machine-tool Temperature Variation Measurement and Compensation Using Regression Analysis Method Shao-Hsien Chen, Yi-Lang Tsai	673
Computational Study of Separation and Capture of Micro-particles in Microfluidic Devices Heng-Chuan Kan, Jian-Ming Lu	677
Cellular Automata Based Hardware Accelerator for Parallel Maze Routing Shashank Saurabh, Kuen-Wey Lin, Yih-Lang Li	680
Research on Applications of Bamboo Material in Modern Design-based on Hunan Bamboo Culture Jie Lu, Ming Xiong, Jingjing Xiong	684
On the Application of Digital Technology in Ink Animation Elixir Yang Xuemei	687
Test of Optical Fibers under Electron Beam Irradiation Dan Sporea, Adelina Sporea, Constantin Oproiu	691
Proton Irradiation Tests of Quantum Cascade Lasers D. Sporea, L. Mihai, M. Straticiuc, I. Burducea, P. Bleotu	695
A Study of Fuzzy Cognitive Map Model with Dynamic Adjustment Method for the Interaction Weights Chen-Tung Chen, Yen-Ting Chiu	699
A Study on the Rare Itemsets of Students' Learning Effectiveness by Using Fuzzy Data Mining Chen-Tung Chen, Kai-Yi Chang	703
A machine learning approach to fall detection algorithm using wearable sensor Chia-Yeh Hsieh, Chih-Ning Huang, Kai-Chun Liu, Woei-Chyn Chu, and Chia-Tai Chan	707
Author index	711