

# **2017 10th International Conference on Ubi-media Computing and Workshops (Ubi-Media 2017)**

**Pattaya, Thailand  
1-4 August 2017**



**IEEE Catalog Number: CFP1743Z-POD  
ISBN: 978-1-5386-2762-4**

**Copyright © 2017 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:	CFP1743Z-POD
ISBN (Print-On-Demand):	978-1-5386-2762-4
ISBN (Online):	978-1-5386-2761-7

**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](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

## Table of Contents

<b>About Ubi-Media 2017 .....</b>	3
<b>Welcome from General Chairman .....</b>	4
<b>Organizing committee .....</b>	5
<b>Scope of Ubi-Media 2017 .....</b>	10
<b>Keynote Speech .....</b>	13
<b>Low Power HD Video Fast Motion Estimation Algorithm Based on Signatures</b>	
<i>Dr. Tokunbo Ogunfunmi , Pavel Arnaudov.....</i>	26
<b>Novel QoS Guaranteed Cell Selection Schemes in LTE-A Heterogeneous Networks</b>	
<i>Ren-Hung Hwang , Kai-Chung Cheng.....</i>	32
<b>Design and Implementation of an NFC-based Universal Touch and Control Platform</b>	
<i>Wei-Hsun Lee , Chien-Ming Chou , Wei Cheng Chen.....</i>	37
<b>The detecting and tracking system for vehicles</b>	
<i>Chien-Chung Wu , Kai-Wen Weng.....</i>	43
<b>Imperceptible Data Hiding in the Encoded Bits of ACELP Codebook</b>	
<i>Rong-San Lin.....</i>	48
<b>Using Idiomatic Expression for Chinese Sentiment Analysis</b>	
<i>Yi-Jen Su , Wu-Chih Hu , Huang-Wei Huang.....</i>	52
<b>Mobile Advertising System Based on User Provided Information in Exchange for Free Network Access</b>	
<i>Xiaolong Liu , Shyan-Ming Yuan , Xuebai Zhang , Pai-Hsuan Wang.....</i>	56
<b>Applying 3D Printing Technique to Reconstruct Cultural Artifacts</b>	
<i>Chieh-Ling Huang , Yu-Siang Mao , Chen-Hua Wen , Jwu-Jenq Chen.....</i>	62
<b>An efficient distributed range query processing algorithm on LiDAR data</b>	
<i>Yu Chi Chung , I-Fang Su , Chiang Lee , Gary Gu.....</i>	68
<b>Real-time Intrusion - Detecting and Alert System by Image Processing Techniques</b>	
<i>Nawin Kongurgsa , Narumol Chumuang , Mahasak Ketcham.....</i>	74
<b>A Mutual Trust Scheme for Vehicular Ad-Hoc Networks Under Sparse RSUs Environment</b>	
<i>Wen Shyong Hsieh.....</i>	80
<b>Budget and Procurement Analytics using Open Government Data in Thailand</b>	
<i>Navaporn Surasvadi , Chalermpol Saiprasert , Suttipong Thajchayapong.....</i>	86

<b>A Distributed SHVC Video Transcoding System</b>	
<i>Tz-Heng Hsu , Zi-Ying Wang</i>	92
<b>Create a puppet play and interactive digital models with Leap Motion</b>	
<i>Yu-Ting Cheng , Timothy K. Shih , Chih-Yang Lin</i>	95
<b>Filling Holes in 3D Scanned Model Base on 2D Image Inpainting</b>	
<i>Shu-Chin Lin , Timothy K. Shih , Hui-Huang Hsu</i>	101
<b>Online Courses Recommendation System based on Industry Occupation Skills Requirements</b>	
<i>Hai-Hui Wang , Chalothon Chootong , Ankhtuya Ochirbat , Worapot Sommool , W K T M Gunarathn , Timothy K. Shih</i>	107
<b>On Over-Exposed Region Detection with Regularized Logistic Regression</b>	
<i>Ying Liu , Keng-Pang Lim , Zhao-Jie Li , Shuai Zhang , Nam Ling</i>	113
<b>The E-Commerce Strategies responding to the UX Design</b>	
<i>Saranya Saetang</i>	119
<b>Content-Based Cropping Using Visual Saliency and Blur Detection</b>	
<i>Yung-Chieh Chou , Chih-Yun Fang , Po-Chyi Su , Yu-Chien Chien</i>	125
<b>An Image Authentication Method for Paper Checks</b>	
<i>Kharittha Thongkor , Thumrongrat Amornraksa</i>	131
<b>Research on the Adaptation Strategy of Tujia Brocade Knowledge Service System for Android</b>	
<i>ZHAO Gang , WANG Shaodong , LU Shuai , WANG Weiwei , ZAN Hui</i>	N/A
<b>Reverse Time Ordered Stroke Context for Air-Writing Recognition</b>	
<i>Tsung-Hsien Tsai , Jun-Wei Hsieh , Hung Chun Chen , Shih-Chin Huang</i>	141
<b>A SVM-based Committee Machine for Prediction of Hong Kong Horse Racing</b>	
<i>Wai-Chung Chung , Chuan-Yu Chang , Chien-Chuan Ko</i>	147
<b>WiFi Indoor Positioning with Binary Search Method</b>	
<i>Santiphap Watcharasukchit , Tuul Triyason , Worarat Krathu , Anuchart Tassanaviboon , Chonlameth Arpnikanondt</i>	151
<b>Spatial-temporal Pattern Analysis and Prediction of Air Quality in Taiwan</b>	
<i>Ping-Wei Soh , Kai-Hsiang Chen , Jen-Wei Huang , Hone-Jay Chu</i>	157
<b>RFID-Based Intelligent Parking Management System with Indoor Positioning and Dynamic Tracking</b>	
<i>Yuan-Tsung Chang , Timothy K. Shih</i>	163
<b>Meerkat: A Framework for Developing Presence Monitoring Software based on Face Recognition</b>	
<i>Paspana Assarasee , Worarat Krathu , Tuul Triyason , Vajirasak Vanijja , Chonlameth Arpnikanondt</i>	171

<b>Distributed Power Adjustment Scheme in Ultra Dense WiFi Networks</b>	
<i>Chin-Ya Huang , Wei-Tsang Teng , Kai-Huan Shen</i> .....	177
<b>DRIVER POSTURE RECOGNITION FOR 360-DEGREE HOLOGRAPHIC MEDIA BROWSING</b>	
<i>Ying-Wei Chuang , Shih-Wei Sun , Pao-Chi Chang</i> .....	182
<b>Human Behavior Recognition Method Based On Conditional Neural Field</b>	
<i>Ke Guo , Minglei Tong</i> .....	188
<b>An Image Watermarking Method in HSL Color Model</b>	
<i>Khariththa Thongkor , Thumrongrat Amornraksa</i> .....	194
<b>Image Watermarking Against Color Blind Image Correction</b>	
<i>Thitiporn Pramoun , Khariththa Thongkor , Thumrongrat Amornraksa</i> .....	200
<b>Design and Development of Application for Crime Scene Notification System</b>	
<i>Nutcharee Wichiennit , Khamron Sunat , Sirapat Chiewchanwattana , Boonchai Louchaisa , Boonyarin Onnoom</i> .....	206
<b>Moommae: A Location-Aware Mobile Information System for Breastfeeding Mothers in Thailand (Invited Paper)</b>	
<i>Pimwadee Chaovalit , Suporn Pongnumkul</i> .....	212
<b>Action Segmentation Based on Bag-of-Visual-Words Models</b>	
<i>Guan-Jhieh Chen , I-Cheng Chang , Hung-Yu Yeh</i> .....	218
<b>Beyond the Tweets: Discovering Factors that Influence TV Series Preferences from Ubiquitous Social Networks</b>	
<i>Tipajin Thaipisutikul , Suppawong Tuarob</i> .....	223
<b>TargetZIKA: Epidemic Situation Detection and Risk Preparedness for ZIKA Virus</b>	
<i>Syed Munawwar Quadri , Prashanth T.K. , Siripen Pongpaichet , Ramesh Jain</i> .....	229
<b>Supernode Transformation On Computer Clusters</b>	
<i>Yong Chen , Weijia Shang , Yi Fang</i> .....	235
<b>Opinion Leaders Discovery in Dynamic Social Network</b>	
<i>Yi-Cheng Chen , Lin Hui , Chun I Wu , Hsin-Yu Liu , Sheng-Chih Chen</i> .....	241
<b>Geo-information platform for visualisation, analysis and optimization for aviation</b>	
<i>Tanawat Chailungka , Panupat Horma , Chonbadee Juthamanee , Wasanchai Vongsantivanich , Supatcha Chaimatanan</i> .....	247
<b>An Investigation on Motion Periodic Series for Fire and Smoke Textures Characteristic Identification</b>	
<i>Kanoksak Wattanachote , Zehang Lin , Mingchao Jiang , Liuwu Li , Gongliang Wang , Wenyin Liu</i> .....	251

<b>MOOCs as an Intelligent Online Learning Platform in Thailand: Past, Present, Future Challenges and Opportunities</b>	
<i>Tipajin Thaipisutikul , Suppawong Tuarob</i> .....	257
<b>The Relationship between Amusement and Quality of Learning by using Gamification Approach in Creative Youth Camp</b>	
<i>Suparp Kanyacome , Yuen Poovarawan</i> .....	263
<b>Hybrid e-Learning System for Basic Vocabulary with Bulletin Board to Support the ASEAN Economic Community (AEC) in the Primary School</b>	
<i>Sila Chunwijitra , Pornchai Tummarattananont , Phondanai Khanti , Chai Wutiwiwatchai</i> .....	268
<b>Investigation on the Effects of Measuring Authentic Contexts on Geometry Learning</b>	
<i>Wu-Yuin Hwang , Yi-Fan Liu , Siska Wati Dewi Purba , Yun Yuan Zhang</i> .....	274
<b>Automatic Attendance System for Late Student using Speech Recognition corresponding with Google Forms and Sheets</b>	
<i>Vasutan Tunbunheng</i> .....	279
<b>Investigating applications of mobile translator for assisting English vocabulary learning</b>	
<i>Chaknarin Kongcharoen , Surachet Prasunpaengsri , Tanomsak Wongmeekaew</i> .....	283
<b>Are STR &amp; CAT-generated texts useful for comprehension of lecturing content in a foreign language?</b>	
<i>Rustam Shadiev , Shavkat Sharipov , Narzikul Shadiev , Mirzaali Fayziev , Shahlo Rahimova . Wanwisa Wannapipat , Andrey Klimenko , Stanislav Klimenko</i> .....	288
<b>The Awareness of Correct English Pronunciations of Business English Major Students at Phetchabun Rajabhat University</b>	
<i>Jeerapan Phomprasert</i> .....	294
<b>Discovery-Enriched Curriculum: A Text Mining Approach for Assessing Students' Discoveries</b>	
<i>Raymond Y.K. Lau</i> .....	300
<b>The incubator course for the global learning environment from the KU campus to Asian Universities</b>	
<i>Tosh Yamamoto , Maki Okunuki , Kinnosuke Manabe , Wen-Chi Vivian Wu , Anthony Y. H. Liao</i> .....	305
<b>Mobile Learning Media for Ecology Using Augmented Reality on Android Smartphone</b>	
<i>Chotiros Surapholchai , Thanyaorn Boonyathitiphun , Rajalida Lipikorn</i> .....	309
<b>Edutainment Tools and VIDEO Podcasting for E-learning courses in University</b>	
<i>Pruegsa Duangphasuk , Chaowarin Sakunvaraklang , Kornsak Thanintharatharn</i> .....	315
<b>Visualized Data Analysis for Site Selection for Remedial Education Institutions</b>	
<i>Shu-Yen Yao , Shein-Yung Cheng</i> .....	321

<b>Learning VR Game Development Towards Software Basic Profile</b>	
<i>Waraporn Jirapanthong , Karuna Yampray , Datchakorn Tancharoen</i>	326
<b>A Thai Experience on Flipped Classrooms: Instructional Video Issues</b>	
<i>Thanyarat Singharnart , Suppadej Mahapokai , Kuntinee Maneeratana</i>	331
<b>Effects of Using Flipped Classroom Learning in Object-oriented Analysis and Design Course</b>	
<i>Pakawan Pugsee</i>	337
<b>An Ontology Guiding Assessment Framework for Hacking Competition</b>	
<i>Shian-Shyong Tseng , Sung-Chiang Lin , Ching-Hao Mao , Tsung-Ju Lee , Guan-Wei Qiu , Ming-Han Lin</i>	343
<b>Learning effects of iconic representation animation teaching on the mathematics problem solving process</b>	
<i>Yu-Yun Lee , Hong-Ren Chen , Shu-Chen Chang</i>	347
<b>A Framework for Generating ICT Word Lists</b>	
<i>Pakawan Pugsee , Sasithorn Limgomolvilas , Jirada Wudthayagorn , Panuwat Janpugdee</i>	351
<b>An e-Learning system for programming languages with semi-automatic grading</b>	
<i>Lih-Shyang Chen , Chao-Cheng Chen , Shu-Han Chang , Emily Yang</i>	356
<b>General Impact of MOOC Assessment Methods on Learner Engagement and Performance</b>	
<i>Laxmisha Rai , Zhongtong Yue , Tantan Yang , Rustam Shadiev , Nongliang Sun</i>	362
<b>Cognitive Assessment Evaluation of CSCL Pedagogy based on NetGuru Platform and CSPL Pedagogy based on TAoD Platform Combined with IPOTA for Network Experiment</b>	
<i>Yung-Hui Chen , Peng-Wen Chen , Lin Hui , Chun-Hsiung Tseng , Wei-Chun Lee , Lawrence Y. Deng , Long-He Lee</i>	366
<b>A Web-based Learning Activity Integrated with Scratch Tool to Support Programming Learning</b>	
<i>Jun-Ming Su , Sin-Jie Wang</i>	372
<b>Haptic Technology and its Application in Education and Learning</b>	
<i>Lu-miao Liu , Wei Li , Jia-jia Dai</i>	376
<b>Agile and Continuous Digital Learning Integration: Perspectives in Ethiopian High Schools</b>	
<i>Gebremariam Mesfin , Tor-Morten Grønli , Gheorghita Ghinea , Dida Midekso , Alexandra Covaci , Wu-Yuin Hwang</i>	382
<b>Behavior Perception and Automatic Intervention for Cooperative Learning in Network Environment</b>	
<i>Xiaojun Qiao , Xiaodong Bai</i>	388
<b>A Comparison of Teaching Tools in Knowledge Building Classrooms</b>	
<i>Qingling Pi , Xiaojun Qiao</i>	394

<b>A Method of Chinese Character Shape Representation And Its Application in The Error Correction For Normative Handwritten Chinese Characters</b>	
<i>Xiaodong Bai , Xiaojun Qiao</i> .....	400
<b>Bandwidth and Buffer-based (B2)-Dynamic Adaptive Streaming over HTTP</b>	
<i>Surawut Moonsin , Tanapat Anusas-amornkul</i> .....	407
<b>An Elder-centered Trip Recommendation Method Leveraging Crowd Sourcing Technologies</b>	
<i>Chun-Hsiung Tseng , Jyi-Shane Liu , Yung-Hui Chen , Jia-Rou Lin</i> .....	413
<b>Proposal of Scatter Typed Wireless IoT Repeaters with Anti-shock Property for Disaster Information Networks</b>	
<i>Noriki Uchida , Erika Nakachi , Yoshitaka Shibata</i> .....	419
<b>Geo-Routing with Angle-Based Decision in Delay-Tolerant Networks</b>	
<i>Cheng-Yen Lin , Ju-Yin Chung , Chao-Ting Li , Chih-Lin Hu , Yao-Nan Lien</i> .....	425
<b>A Grid-based Successive Point-of-Interest Recommendation Method</b>	
<i>Hung-Yi Gau , Yi-Shu Lu , Jiun-Long Huang</i> .....	430
<b>An Effective Object Recognition System by a Mobile Application</b>	
<i>Wen-Yen Tseng , Kai-Hsiang Chen , Jen-Wei Huang</i> .....	436
<b>Home Care with IoT Support: Architecture Design and Functionality</b>	
<i>Chih-Lin Hu , Ssuwei Chen , Liangxing Guo , Chalothon Chootong , Lin Hui</i> .....	442
<b>IoT solution for bad habit of car security</b>	
<i>Somchoke Ruengittinun , Juladis Paisalwongcharoen , Chaiwat Watcharajindasakul</i> .....	448
<b>Smart Tag Tracking for Livestock Farming</b>	
<i>Soontharee Koompairojn , Chakrit Puitrakul , Nattawat Riyagoon , Somchoke Ruengittinun</i> .....	452
<b>Constructing a User-Centric IoT Framework for Software Integration in a Smart Home Environment</b>	
<i>Peng Wen Chen , Yung-Hui Chen , Yi-Hsien Wu</i> .....	456
<b>Applied Internet of Thing for Smart Hydroponic Farming Ecosystem (HFE)</b>	
<i>Somchoke Ruengittinun , Sithidech Phongsamsuan , Phasawut Sureeratanakorn</i> .....	462
<b>Human Fall Detection Based on Event Pattern Matching with Ultrasonic Array Sensors</b>	
<i>Yuan-Tsung Chang , Timothy K. Shih</i> .....	466
<b>Author Index</b>	
	473