

Table of Contents

Keynotes

- Toward a 3D Hand Gesture Multi-threaded Programming Environment 1
Raul A. Herrera-Acuña, Vasileios Argyriou, and Sergio A. Velastin
- A Conversational Collaborative Filtering Approach to Recommendation 13
Eoin Hurrell and Alan F. Smeaton

Computer Vision and Engineering

- Orthogonal Nonnegative Matrix Factorization for Blind Image Separation 25
Andri Mirzal
- A Hybrid Robust Image Watermarking Scheme Using Integer Wavelet Transform, Singular Value Decomposition and Arnold Transform 36
Nasrin M. Makbol and Bee Ee Khoo
- Near-Optimal Moire Grating for Chaotic Dynamic Visual Cryptography 48
Rita Palivonaite, Algimantas Fedaravicius, Algiment Aleksa, and Minvydas Ragulskis
- A Robust Subset-ICP Method for Point Set Registration 59
Junfen Chen, Bahari Belaton, and Zheng Pan
- Integrated Communication for Truck Monitoring in Solid Waste Collection Systems 70
Maher Arebey, M.A. Hannan, and Hassan Basri
- A Geometrical Approach for Age-Invariant Face Recognition 81
Amal Seralkhatem Osman Ali, Vijanth Sagayan a/l Asirvadam, Aamir Saeed Malik, and Azrina Aziz
- Face Verification Using Multiple Localized Face Features 97
Mohd. Ridzuwary Mohd. Zainal, Hafizah Husain, Salina Abdul Samad, and Aini Hussain
- Adaptive Motion Pattern Analysis for Machine Vision Based Moving Detection from UAV Aerial Images 104
A.F.M. Saifuddin Saif, Anton Satria Prabuwno, and Zainal Rasyid Mahayuddin

An Engineering Design Support Tool Based on TRIZ	115
<i>Mei Choo Ang, Kok Weng Ng, Siti Azfanizam Ahmad, and Amelia Natasya Abdul Wahab</i>	
Enhancing an Automated Inspection System on Printed Circuit Boards Using Affine-SIFT and TRIZ Techniques	128
<i>Amirhossein Aghamohammadi, Mei Choo Ang, Anton Satria Prabuwno, Marzieh Mogharrebi, and Kok Weng Ng</i>	
Effective Method of Mobile Human Computer Interface for Military Operation Training	138
<i>Fatin Farhana Abd. Khalid, Syed Nasir Alsagoff, and Mohd. Hazali Mohamed Halip</i>	
A Simple Standalone Sign Based Recognition Translator without Using Super Computer Processing	146
<i>Sandy Siu Ying Ko, Wei Lun Ng, Chee Kyun Ng, and Nor Kamariah Noordin</i>	
Enhanced Image Super-Resolution Technique Using Convolutional Neural Network	157
<i>Kah Keong Chua and Yong Haur Tay</i>	
Segmentation of the Lung Anatomy for High Resolution Computed Tomography (HRCT) Thorax Images	165
<i>Norliza Mohd. Noor, Omar Mohd. Rijal, Joel Than Chia Ming, Faizol Ahmad Roseli, Hossien Ebrahimian, Rosminah M. Kassim, and Ashari Yunus</i>	
Comparison of Edge Detection Technique for Lane Analysis by Improved Hough Transform	176
<i>Muhamad Lazim Talib, Xio Rui, Kamarul Hawari Ghazali, Norulzahrah Mohd. Zainudin, and Suzaimah Ramli</i>	
Adaptive Region Growing for Automated Oil Palm Fruit Quality Recognition	184
<i>LaylaWantgli Shrif Amosh, Siti Norul Huda Sheikh Abdullah, Che Radiziah Che Mohd., and Jinjuli Jameson</i>	
Performances of Invariant Feature Detectors in Real-Time Video Applications	193
<i>M. Hedayati, W. Mimi Diyana W. Zaki, Aini Hussain, and Mohd. Asyraf Zulkifley</i>	

Computer Graphic and Simulation

A Simulation Study on Factors Affecting Airwaves Using Factorial Design	206
<i>Muhammad Abdulkarim, Afza Shafie, Wan Fatimah Wan Ahmad, and Radzuan Razali</i>	
Game Design for Acquired Brain Injury Cognitive Rehabilitation: A Conceptual Framework	218
<i>Ahmed Mohammed Elakloun, Nor Azan Mat Zin, and Azrulhizam Shapii</i>	
Exploring the User Engagement in Interacting with Game Interfaces ...	231
<i>Siti Zahidah Abdullah, Nazlena Mohamad Ali, and Hyowon Lee</i>	
Fast and Efficient Video Completion Using Object Prior Position	241
<i>Sameh Zarif, Ibrahima Faye, and Dayang Rohaya</i>	
Let's Play with Colours: BacaMAX User Interface for Dyslexic Children	253
<i>Husniza Husni and Zulikha Jamaludin</i>	
Evaluation of Mobile Games Using Playability Heuristics	264
<i>Sarmad Soomro, Wan Fatimah Wan Ahmad, and Suziah Sulaiman</i>	
Children's Technology: How Do Children Want It?	275
<i>Fariza Hanis Abdul Razak, Khairiyah Salleh, and Noor Hidayah Azmi</i>	
An Interactive Rough Set Attribute Reduction Using Great Deluge Algorithm	285
<i>Najmeh Sadat Jaddi and Salwani Abdullah</i>	
Reconstructing 3D Face Shapes from Single 2D Images Using an Adaptive Deformation Model	300
<i>Ashraf Y.A. Maghari, Ibrahim Venkat, Iman Yi Liao, and Bahari Belaton</i>	
Understanding Big Picture and Its Challenges: Experts and Decision Makers Perspectives	311
<i>Suraya Ya'acob, Nazlena Mohamad Ali, and Norshita Mat Nayan</i>	
Eyes on OSH – Usability Testing with Eye-Tracking and User Preference Rating	323
<i>Norfarhana Abdollah, Soo Shi Tzuaan, and Ashok Sivaji</i>	
Simulations of PCB Assembly Optimisation Based on the Bees Algorithm with TRIZ-Inspired Operators	335
<i>Mei Choo Ang, Kok Weng Ng, Duc Truong Pham, and Anthony Soroka</i>	

Soft Key and Hard Key Mobile Input Devices on Player Experience for Mobile Gaming	347
<i>Kimberly Chu, Tek Yong Lim, Chee Weng Khong, and Chui Yin Wong</i>	
An Endeavour to Detect Persons Using Stereo Cues	358
<i>Rim Trabelsi, Fethi Smach, Issam Jabri, Fatma Abdelkefi, Hichem Snoussi, and Ammar Bouallegue</i>	
Development of a Multimedia Courseware for Slow Learner Children with Reading Difficulties: MyLINUS	371
<i>Wan Fatimah Wan Ahmad, Shahrina Md. Noordin, and Nor Syafiza Md. Shariffudin</i>	
Users' Expectation of Web Objects Location: Case Study of ASEAN Countries	383
<i>Aslina Baharum and Azizah Jaafar</i>	
Playability Assessment for Educational Computer Games: Pilot Study for Model Development	396
<i>Hasiah Mohamed and Azizah Jaafar</i>	

Virtual and Augmented Reality

Preliminary Investigation on Creative Educational Content for Visually-impaired (VI) Learners	408
<i>Nurulnadwan Aziz, Ariffin Abdul Mutalib, Siti Mahfuzah Sarif, and Mohd. Saifullizam Jaafar</i>	
Handheld Augmented Reality Interaction Technique	418
<i>Shahan Ahmad Chowdhury, Haslina Arshad, Behrang Parhizkar, and Waqas Khalid Obeidy</i>	
Exploring Medical Family Tree Data Using Visual Data Mining	427
<i>Wan Mohd. Nazmee Wan Zainon and Abdullah Zawawi Talib</i>	
Interactivity and Animation Effects towards Student Enhancement of Learning in WAN Protocols	435
<i>Nurul Hazra Abdul Salam, Riaza Mohd. Rias, Wan Kadijah Yusof, and Aisyah Abdul Manap</i>	
Increasing the Tracking Efficiency of Mobile Augmented Reality Using a Hybrid Tracking Technique	447
<i>Waqas Khalid Obeidy, Haslina Arshad, Shahan Ahmad Chowdhury, Behrang Parhizkar, and Jiungyao Huang</i>	

MMUGait Database and Baseline Results	458
<i>Hu Ng, Chiung Ching Ho, Wooi-Haw Tan, Hau-Lee Tong, Kok-Why Ng, Timothy Tzen-Vun Yap, Pei-Fen Chong, Lay-Kun Tan, Junaidi Abdullah, and Chikkannan Eswaran</i>	
Color-Spatial Person Re-identification by a Voting Matching Scheme ...	470
<i>Mohammad Ali Saghafi, Aini Hussain, Halimah Badioze Zaman, and Mohamad Hanif Md. Saad</i>	
Designing a Checklist for an E-Commerce Website Using Kansei Engineering	483
<i>Kim Nee Goh, Yoke Yie Chen, Stephanie Cristal Daud, Ashok Sivaji, and Shi Tzuaan Soo</i>	
Automatic Assessment for Engineering Drawing	497
<i>Kim Nee Goh, Siti Rohkmah Mohd. Shukri, and Rofans Beleam Hilisebua Manao</i>	
The Use of Personalized Digital Memory Book as a Reminiscence Therapy for Alzheimer's Disease (AD) Patients	508
<i>Anis Hashim, Riaza Mohd. Rias, and Muhamad Fairus Kamaruzaman</i>	
Application of Mobile Augmented Reality in a Computer Science Course	516
<i>Nazatul Aini Abd. Majid</i>	
Design Method of Video Based Iris Recognition System (V-IRS)	526
<i>Asama Kuder Nseaf, Azizah Jaafar, Haroon Rashid, Riza Sulaiman, and Rahmita Wirza O.K. Rahmat</i>	
Smart-Device-Based Augmented Reality (SDAR) Models to Support Interior Design: Rethinking "Screen" in Augmented Reality	539
<i>Pei-Hsien Hsu, Sheng-Yang Huang, and Bao-Shuh Lin</i>	
Incorporating Learning Management System with Social Network Sites to Support Online Collaborative Learning: Preliminary Analysis	549
<i>Sharifah Nadiyah Razali, Faaizah Shahbodin, Norasiken Bakar, Hanipah Hussin, Mohd. Hafiez Ahmad, and Normala Sulaiman</i>	
Student's Behavioral Intention to Use Online Discussion Site (ODS) Scale: Investigating Unidimensionality of the Measurement Model	558
<i>Prasanna Ramakrisnan, Azizah Jaafar, and Noor Faezah Binti Mohd. Yatim</i>	
A Rewritable Data Embedding in JPEG-XR Compressed Image with File Size Preservation	569
<i>Kazuki Minemura and KokSheik Wong</i>	

Evaluation of Augmented Reality Remedial Worksheet
Based on AVCTP Algorithm for Negative Numbers (AR^2WN^2) 581
*Halimah Badioze Zaman, Elango a/l Periasamy, Azlina Ahmad,
Riza Sulaiman, Mei Choo Ang, and Norshita Mat Nayan*

Visualisation and Social Computing

Advocating Green Technology Solutions for Sustainable Transport
Efficiency: A Preliminary Investigation on Cab Providers and Users
in Melaka 595
*Maizam Alias, Sazilah Salam, Edna Buyong, Norasiken Bakar, and
Riduwan Mohd. Nawawi*

Analytical Comparison of Factors Affecting EHR Visualization
for Physicians in Public Health Care Units 605
Muhammad Sheraz Arshad Malik and Suziah Sulaiman

“SynMax”: A Mathematics Application Tool for Down Syndrome
Children 615
*Afza Shafie, Wan Fatimah Wan Ahmad, Nadhrah Mohd.,
Josefina Janier Barnachea, M. Faisal Taha, and Rahmah Lob Yusuff*

Presence in Visual Mental Imagery 627
*Jayesh S. Pillai, Uday A. Athavankar, Colin T.A. Schmidt, and
Simon Richir*

Usability Evaluation of the Agile Software Process 640
Wan Fatimah Wan Ahmad, Saad Masood Butt, and Lukman Rahim

The Effects of Icon Characteristics on Users’ Perception 652
Syed Ghayas, Suziah Sulaiman, Muzafar Khan, and Jafreezal Jaafar

Knowledge Preservation Framework for University’s Intellectual
Output 664
*Zatul Amilah Shaffiei, Saidatul Rahah Hamidi, Haryani Haron, and
Andra Israh Ab. Halim*

Heuristics Evaluation of Preschool Cognitive Skills Learning System ... 671
*Muhammad Azeem Abbas, Wan Fatimah Wan Ahmad, and
Khairul Shafee Kalid*

Effectiveness of Concept Map Approach in Teaching History Subject ... 683
Siti Salwa Salleh and Rashedah Ismail

An AHP-Based Approach in the Early Design Evaluation via Usability
Goals 694
Meei Hao Hoo and Azizah Jaafar

Engendering Trust through Emotion in Designing Persuasive Application	707
<i>Wan Nooraishya Wan Ahmad and Nazlena Mohamad Ali</i>	
A Study on the Naturalness of Gesture-Based Interaction for Children	718
<i>Mohd. Sahlan Ab. Rahman, Nazlena Mohamad Ali, and Masnizah Mohd.</i>	
Developing Architecture of Haptik Visual Jawi (HV-Jawi)	729
<i>Maizan Mat Amin, Halimah Badioze Zaman, and Azlina Ahmad</i>	
An Investigation of the Factors That Influence Students' Intention to Adopt E-Learning	742
<i>Mohamed Hussain Thowfeek and Azizah Jaafar</i>	
Cultural Differences in Interface Preferences	753
<i>Zurida Ishak and Azizah Jaafar</i>	
Preliminary Study of Eye Tracking Evaluation on Product Label Design	765
<i>Mohd. Hafiz Faizal Mohamad Kamil and Azizah Jaafar</i>	
Visual Interaction Patterns of Students' Feedback: Reliability and Usability of Teaching and Supervision Evaluation System (TESES)	776
<i>Uswatun Bakar and Azizah Jaafar</i>	
Visually Impaired User's Navigation Experiences in Facebook	788
<i>Bavani Ramayah, Azizah Jaafar, and Noor Faezah Mohd. Yatim</i>	
Author Index	797