

The 7th International Conference on Computer Science and its Applications (CSA 2015)
The 10th KIPS International Conference on Ubiquitous Information Technologies and Applications (CUTE 2015)

**The 7th International Conference on
Computer Science and its Applications
(CSA 2015)
&
The 10th KIPS International Conference on
Ubiquitous Information Technologies and
Applications
(CUTE 2015)**

December 15-17, 2015
Cebu, Philippines

Organized by

KIPS CSWRG

Conferences

The 2016 World Congress on Information Technology Applications and Services

- February 17-19, 2016, Jeju, Korea

- <http://www.worlditcongress.org/2016jeju>

The 10th International Conference on Multimedia and Ubiquitous Engineering (MUE2016)

- April, 20-22, 2016, Beijing, China

- <http://www.mue-conference.org/2016/>

The 11th International Conference on Future Information Technology (FutureTech2016)

- April, 20-22, 2016, Beijing, China

- <http://www.futuretech-conference.org/2016>

Message from the CSA 2015 General Chair

International Conference on Computer Science and its Applications (CSA 2015) is the 7th event of the series of international scientific conference. This conference takes place Cebu, Philippines, Dec. 15 - 17, 2015. CSA 2015 will be the most comprehensive conference focused on the various aspects of advances in computer science and its applications. CSA 2015 will provide an opportunity for academic and industry professionals to discuss the latest issues and progress in the area of CSA. In addition, the conference will publish high quality papers which are closely related to the various theories and practical applications in CSA. Furthermore, we expect that the conference and its publications will be a trigger for further related research and technology improvements in this important subject. CSA 2015 is the next event in a series of highly successful International Conference on Computer Science and its Applications, previously held as CSA 2014 (6th Edition: Guam, December, 2014), CSA 2013 (5th Edition: Danang, December, 2013), CSA 2012 (4th Edition: Jeju, November, 2012), CSA 2011 (3rd Edition: Jeju, December, 2011), CSA 2009 (2nd Edition: Jeju, December, 2009), and CSA 2008 (1st Edition: Australia, October, 2008).

The papers included in the proceedings cover the following topics: Mobile and ubiquitous computing, Dependable, reliable and autonomic computing, Security and trust management, Multimedia systems and services, Networking and communications, Database and data mining, Game and software engineering, Grid and scalable computing, Embedded system and software, Artificial intelligence, Distributed and parallel algorithms, Web and internet computing and IT policy and business management.

Accepted and presented papers highlight new trends and challenges of Computer Science and its Applications. The presenters showed how new research could lead to novel and innovative applications. We hope you will find these results useful and inspiring for your future research. We would like to express our sincere thanks to Steering Chairs: James J. (Jong Hyuk) Park (SeoulTech, Korea), Han-Chieh Chao(National Ilan University, Taiwan) and Mohammad S. Obaidat(Monmouth University, USA). Our special thanks go to the Program Chairs: Aziz Nasridinov(Chungbuk National University, Korea), Neil Y. Yen(The University of Aizu, Japan), Yu Chen(State University of New York, USA), Hwamin Lee(SoonChunHyang University, Korea), Isaac Woungang(Ryerson University, Canada), all Program Committee members and all the additional reviewers for their valuable efforts in the review process, which helped us to guarantee the highest quality of the selected papers for the conference.

We cordially thank all the authors for their valuable contributions and the other participants of this conference. The conference would not have been possible without their support. Thanks are also due to the many experts who contributed to making the event a success.

CSA 2015 General Chair

Michael Hwa Young Jeong, Kyung Hee University, Korea

Message from the CSA 2015 Program Chairs

Welcome to the 7th International Conference on Computer Science and its Applications (CSA 2015) which will be held in Cebu, Philippines, Dec. 15 - 17, 2015. CSA 2015 will be the most comprehensive conference focused on the various aspects of advances in computer science and its applications.

CSA 2015 provides an opportunity for academic and industry professionals to discuss the latest issues and progress in the area of Computer Science. In addition, the conference contains high quality papers which are closely related to the various theories and practical applications in Computer Science. Furthermore, we expect that the conference and its publications will be a trigger for further related research and technology improvements in this important subject. CSA 2015 is the next event in a series of highly successful International Conference on Computer Science and its Applications, previously held as CSA 2014 (6th Edition: Guam, December, 2014), CSA 2013 (5th Edition: Danang, December, 2013), CSA 2012 (4th Edition: Jeju, November, 2012), CSA 2011 (3rd Edition: Jeju, December, 2011), CSA 2009 (2nd Edition: Jeju, December, 2009), and CSA 2008 (1st Edition: Australia, October, 2008).

CSA 2015 contains high quality research papers submitted by researchers from all over the world. Each submitted paper was peer-reviewed by reviewers who are experts in the subject area of the paper. Based on the review results, the Program Committee accepted papers.

For organizing an International Conference, the support and help of many people is needed. First, we would like to thank all authors for submitting their papers. We also appreciate the support from program committee members and reviewers who carried out the most difficult work of carefully evaluating the submitted papers.

We would like to give my special thanks to Prof. James J. (Jong Hyuk) Park, Prof. Han-Chieh Chao, and Prof. Mohammad S. Obaidat, the Steering Committee Chairs of CSA for their strong encouragement and guidance to organize the symposium. We would like to thank CSA 2015 General Chair, Prof. Michael Hwa Young Jeong. We would like to express special thanks to committee members for their timely unlimited support.

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Message from the CUTE 2015 General Chairs

On behalf of the organizing committees, it is our pleasure to welcome you to the 10th International Conference on Ubiquitous Information Technologies and Applications (CUTE 2015), will be held in Cebu, Philippines on December 15-17, 2015.

This conference provides an international forum for the presentation and showcase of recent advances on various aspects of ubiquitous computing. It will reflect the state-of-the-art of the computational methods, involving theory, algorithm, numerical simulation, error and uncertainty analysis and/or novel application of new processing techniques in engineering, science, and other disciplines related to ubiquitous computing.

The papers included in the proceedings cover the following topics: Ubiquitous Communication and Networking, Ubiquitous Software Technology, Ubiquitous Systems and Applications, Ubiquitous Security, Privacy and Trust. Accepted papers highlight new trends and challenges in the field of ubiquitous computing technologies. We hope you will find these results useful and inspiring for your future research.

We would like to express our sincere thanks to Steering Committees: Young-Sik Jeong (Dongguk University, Korea), Laurence T. Yang (St. Francis Xavier University, Canada), Hai Jin (Huangzhong University of Science and Technology, China), Chan-Hyun Youn (KAIST, Korea), Jianhua Ma (Hosei University, Japan), Minyi Guo (Shanghai Jiao Tong University, Japan), & Weijia Jia (City University of Hong Kong, Hong Kong). We would also like to express our cordial thanks to the Program Chairs & Program Committee members for their valuable efforts in the review process, which helped us to guarantee the highest quality of the selected papers for the conference.

Finally, we would thank all the authors for their valuable contributions and the other participants of this conference. The conference would not have been possible without their support. Thanks are also due to the many experts who contributed to making the event a success.

CUTE 2015 General Chairs

James J. Park, Seoul National University of Science & Technology, Korea
Victor Leung, University of British Columbia, Canada
Shu-Ching Chen, Florida International University, USA

Message from the CUTE 2015 Program Chairs

Welcome to the 10th International Conference on Ubiquitous Information Technologies and Applications (CUTE 2015), will be held in Cebu, Philippines on December 15-17, 2015.

The purpose of the CUTE 2015 conference is to promote discussion and interaction among academics, researchers and professionals in the field of ubiquitous computing technologies. This year the value, breadth, and depth of the CUTE 2015 conference continues to strengthen and grow in importance for both the academic and industrial communities. This strength is evidenced this year by having the highest number of submissions made to the conference.

For CUTE 2015, we received a lot of paper submissions from various countries. Out of these, after a rigorous peer review process, we accepted only high-quality papers for CUTE 2015 proceeding, published by the Springer. All submitted papers have undergone blind reviews by at least two reviewers from the technical program committee, which consists of leading researchers around the globe. Without their hard work, achieving such a high-quality proceeding would not have been possible. We take this opportunity to thank them for their great support and cooperation.

We would also like to sincerely thank the following invited speakers who kindly accepted our invitations, and, in this way, helped to meet the objectives of the conference:

- Prospero C. Naval, Jr., Ph.D., University of the Philippines, Philippines

Finally, we would like to thank all of you for your participation in our conference, and also thank all the authors, reviewers, and organizing committee members. Thank you and enjoy the conference!

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Invited Speaker



Preserving Marine Biodiversity through Machine Learning

Prof. Prospero C. Naval, Jr., Ph.D.

Chairman and Professor Department of Computer Science
University of the Philippines, Philippines

Abstract

Marine biodiversity has long been recognized as essential for sustainable development due to its crucial role in providing global food security, creation of sustainable livelihood and mitigation of climate change effects. Biodiversity conservation efforts often require advanced tools for monitoring marine resources for development of sound policy strategies.

In this talk we discuss the use of machine learning for monitoring and evaluation of coral reef health, assessment of reef fish abundance, distribution and variety, as well as determining the factors that influence livelihood switching through provision of equipment incentives for fishing pressure alleviation.

Biography

Prospero C. Naval, Jr. is a Professor of Computer Science at the University of the Philippines Diliman and is the Laboratory Head of the Computer Vision and Machine Intelligence Group. His research is focused on the development of efficient algorithms for the analysis of large scale text, image/video and time series data with applications in healthcare, environment and education.

PROGRAM SCHEDULE FOR CSA & CUTE 2015

Day 1, December 15, 2015			
Time	Min	HALL -A	HALL-B
10: 00-12: 00	120	CSA - Organizing Committee Meeting	
13: 00-15: 00	120	CUTE - Organizing Committee Meeting	
15: 00-17: 00	60	Local Arrangement Committee Meeting	

Day 2, December 16, 2015			
Time	Min	HALL -A	HALL B
08: 40-09: 00	20	Registration	
09: 00-10: 30	90	Session A-1 CUTE Chair : Hyun Lee	Session B-1 CSA Chair : Eui Chul Lee
10: 30-10: 40	10	Coffee Break	
10: 40-12: 10	90	Session A-2 CUTE Chair : Saad Allawi Nsaif	Session B-2 CUTE Chair : Md Saiful Islam
12: 10-13: 30	80	Lunch	
13: 30-14: 30	60	Keynote: Preserving Marine Biodiversity through Machine Learning Prospero C. Naval, Jr. Chairman and Professor Department of Computer Science University of the Philippines Chair: Kwang Il Hwang	
14: 30-14: 40	10	Coffee Break	
14: 40-16: 10	90	Session A-3 CUTE Chair : Sung suk Kim	Session B-3 CSA Chair : Samuel Sangkon Lee
16: 10-16: 20	10	Coffee Break	
16: 20-17: 40	80	Session A-4 CUTE Chair : Joon-min Gil	Session B-4 CSA Chair : Kwang Il Hwang
18: 00-20: 00	120	Reception Chair: Kwang Il Hwang	

Day 3, December 17, 2015			
Time	Min	HALL -A	HALL B
08: 40-09: 00	20	Registration	
09: 00-10: 30	90	Session A-5 CUTE Chair : Kwangman Ko	Session B-5 CUTE Chair : Jin Gon Shon
10: 30-10: 40	10	Coffee Break	
10: 40-12: 10	90	Session A-6 CUTE Chair : Jea-Hui Cha	Session B-6 NUI/NUX Chair : Niyonsaba Eric
12: 10-13: 30	80	Lunch	
13: 30-15: 00	90	Session A-7 CUTE Chair : Mokdong Chung	Session B-7 NUI/NUX Chair : Eui Chul Lee
15: 00-15: 10	10	Coffee Break	
15: 10-17: 40	120	Session A-8 CUTE Chair : Joon-min Gil	Session B-8 CSA Chair : Fei Hao
18: 00-20: 00	120	Banquet Chair: Kwang Il Hwang	

1. A paper presentation should be made by one of authors of the paper for 20 minute (15 minutes for the presentation itself and 5 minutes for Q/A).
2. All speakers of each session should meet the session chair at their room 10 minutes before the session begins.
3. Windows 7 laptops running the Adobe Reader and Microsoft Office for paper presentations will be prepared. Please prepare for your presentation.

**DETAILED SCHEDULE FOR
THE 7TH INTERNATIONAL CONFERENCE ON
COMPUTER SCIENCE AND ITS APPLICATIONS (CSA 15)
&
THE 10TH KIPS INTERNATIONAL CONFERENCE
ON UBIQUITOUS INFORMATION TECHNOLOGIES AND
APPLICATIONS (CUTE 2015)**

Day 1, December 15, 2015 (Tuesday)

- 10:00-12:00** **CSA - Organizing Committee Meeting**
- 13:00-15:00** **CUTE - Organizing Committee Meeting**
- 15:00-17:00** **Local Arrangement Committee Meeting**

Day 2, December 16, 2015 (Wednesday)

08: 40-09: 00 **Registration**

09: 00-10: 30 **Session A-1 : CUTE**
(HALL A)
(Chair: Hyun Lee)

- 1. Feasibility and Reliability of a Mobile Application for Assessing Unilateral Neglect**
Hyun Lee, Hyeon-Gi Lee, Jiheon Hong
- 2. Performance Analysis of Format-Preserving Encryption based on Unbalanced-Feistel Structure**
Keonwoo Kim, Ku-Young Chang
- 3. Green Treatment Plan Selection based on Three Dimensional Fuzzy Evaluation Model**
Fei Hao, Doo-Soon Park, Sang Yeon Woo
- 4. A Combination of PSO-based Feature Selection and Tree-Based Classifiers Ensemble for Intrusion Detection Systems**
Bayu Adhi Tama, Kyung Hyune Rhee
- 5. A Distributed Mobility Support in SDN-based LTE/EPC Architecture**
Yong-hwan Kim, Hyun-Kyo Lim, Kyoung-Han Kim, Youn-Hee Han, JooSang Youn
- 6. 2D Barcode Localization Using Multiple Features Mixture Model**
Myeongsuk Pak, Sanghoon Kim
- 7. FAIR-based Loss Measurement Model for Enterprise Personal Information Breach**
Jang Ho Yun, In Hyun Cho, Kyung Ho Lee

8. Occlusion Detection using Multi-mode Mean-shift Tracking

Eun-Sub Kim, Min Hong, Yoo-Joo Choi

09: 00-10: 30 Session B-1 : CSA

(HALL B)

(Chair: Eui Chul Lee)

1. Group ID Issuing Model Using Temporal Explicit Movement in Social Life Logging

Young Ho Jo, Jung Nyun Lee, Hea Jin Kim, Jin Cheol Woo, Yu Jin Lee, Min Cheol Whang

2. An Analysis of Infographic Design for Life-Logging Application

Sojung Kwak, Joeun Lee, Jieun Kwon

3. Cardiovascular Synchrony for Determining Significant Group in Social Life Logging

Jincheol Woo, Young-Ju Kim, Seung Seob Shin, Young Ho Jo, Hojung Choi, Mincheol Whang

4. Correlation between Heart Rate and Image Components

Min Woo Park, Jiwon Im, Jieun Kwon, Mincheol Whang, Eui Chul Lee

5. Heart Rate Synchronization with Spatial Frequency of Visual Stimuli

Jiwon Im, Min Woo Park, Eui Chul Lee

6. Vocabulary Modeling of Social Emotion based on Social Life Logging

Hea Jin Kim, Young Ho Jo, Young Joo Kim, Hye Sun Kim, Min Cheol Whang

10: 30-10: 40 Coffee break

10: 40-12: 10 Session A-2 : CUTE

(HALL A)

(Chair: Saad Allawi Nsaif)

1. Design of a Smartphone-based Driving Habit Monitoring System

Jin-Woo An, Daejin Moon, Dae-Soo Cho

2. A Reference Architecture Framework for Orchestration of Participants Systems in IT Ecosystems

Soojin Park, Seungmin Lee, Young B. Park

3. Contents based Traceability between Research Artifact and Process for R&D Projects

Jong-Won Ko, Sun-Tae Kim, Jae-Young Choi, Young-Hwa Cho

4. Design and Implementation of Panoramic Vision System based on MPEG-V

Jongseol Lee, Saim Shin, Dalwon Jang, Seong-Dong Kim, Min-Uk Kim, Kyoungro Yoon

5. A Study on the Algorithm Design for Improving the Accuracy of Decision Tree

ChangSeup Han, HeeJun Moon, ChangJae Kim

6. Enhancing PIN input for Preventing Eavesdropping in BLE Legacy Pairing

Jun Kwon Jung, Tai Myong Chung

7. HiL Test based Fault Localization Method using Memory Update Frequency

Ki-Yong Choi, Jooyoung Seo, Seung Yeun Jang, Jung-Won Lee

8. In-Memory Processing for Nearest User-Specified Group Search

Hong-Jun Jang, Woo-Sung Choi, Kyeong-Seok Hyun, Taehyung Lim, Soon-Young Jung, Jaehwa Chung

10: 40-12: 10 Session B-2 : CUTE

(HALL B)

(Chair: Md Saiful Islam)

1. Implementation of Autonomous Navigation Using a Mobile Robot Indoor

Sung Woo Noh, Dong Jin Seo, Tae Gyun Kim, Seong Dae Jeong, Kwang Jin Kim

2. Convergence Modeling of Heterogeneous Medical Information for Acute Myocardial Infarction

Meeyeon Lee, Ye-Seul Park, Myung-Hee Kim, Jung-Won Lee

3. Optimization of LSPL Algorithm for Data Transfer in Sensor Networks based on LEACH

Wang-Boo Jeong, Dong-Won Park, and Young-Ho Sohn

4. Design & Implementation for Emergency Broadcasting using Agencies' Disaster Information

Geum-Young Min, Hyoung-Seop Shim

5. Application and development of Service Integration Platform for Agricultural Products

Geum-Young Min, Min-Ho Jung, Hyoung-Seop Shim

6. Classification Framework for Electropulsegraph Waves

JinSoo Park, Dong Hag Choi, Se Dong Min, Doo-Soon Park

7. Homography-based Motion Detection in Screen Content

Ton Thi Kim Loan, Xuan-Qui Pham, Huu-Quoc Nguyen, Nguyen Dao Tan Tri, Ngo Quang Thai, Eui-Nam Huh

8. Resource-Aware Job Scheduling and Management System for Semiconductor Application

Hyesuk Park, Seungyun Kim, Taehyun Kim, Junghoon Kim, Youngkwan Park, Young Ik Eom

9. Analysis of Medical Data using The Big Data and R

Giyong Choi, Kangwoo Lee, Deokseok Seo, Soonseok Kim, Dongho Kim, Yonghee Lee

12: 10-13: 30 Lunch

13: 30-14: 30 Keynote Speech

(HALL A)

(Chair: Kwang Il Hwang)

Preserving Marine Biodiversity through Machine Learning

Prof. Prospero C. Naval, Jr., Ph.D.,

Chairman and Professor Department of Computer Science
University of the Philippines, Philippines

14: 30-14: 40 Coffee break

14: 40-16: 10 Session A-3 : CUTE

(HALL A)

(Chair: Sung Suk Kim)

1. **Implementation of Wireless Communication-based Video Control System for Media Façade**
Sooyeon Lim, Jaeha Lyu
2. **The Packet Filtering Method with Packet Delay Distribution Forecasting for Stability and Synchronization in a Heterogeneous Network**
Kyeong-Rae Cho, You-Boo Jeon, Keun-Ho Lee, Jin-Soo Park
3. **Necessity of Incentive System for the First Uploader in Client-Side Deduplication**
Taek-Young Youn, Ku-Young Chang
4. **LPLB: A Novel Approach for Loop Prevention and Load Balancing in Ethernet Ring Networks**
Saad Nsaif, Nguyen Tien, Jong Rhee
5. **A Functional Relationship based Attestation Scheme for Detecting Compromised Nodes in Large IoT Networks**
Yong-Hyuk Moon, Yong-Sung Jeon, Chan-Hyun Youn
6. **A Study on the New Ethernet Communication Method using Virtual MAC address**
Jae-Won Ahn, Seung-Peom Park, Kwon-Jeong Yoo, Eun-Gi Kim
7. **The Design of Log Analysis Mechanism in SDN Quarantined Network System**
Tae-Young Kim, Nam-Uk Kim, Tai-Myoung Chung
8. **Conceptual Design of a Network-based Personalized Research Environment**
Heeseok Choi, Jiyoung Park, Hyungseop Shim, Beomjong You

14: 40-16: 10 Session B-3 : CSA

(HALL B)

(Chair: Samuel Sangkon Lee)

1. **Cryptanalysis of Enhanced Biometric-Based Authentication Scheme for Telecare Medicine Information Systems Using Elliptic Curve Cryptosystem**
Jongho Mun, Jiseon Yu, Jiye Kim, Hyungkyu Yang, Dongho Won
2. **Cryptanalysis on Symmetric Key Techniques based Authentication Scheme for Wireless Sensor Networks**
Yoonsung Choi, Youngsook Lee, Dongho Won
3. **Proving Sufficient Completeness of Constructor-based Algebraic Specifications**
Masaki Nakamura, Daniel Gaina, Kazuhiro Ogata, Kokichi Futatsugi
4. **Effect of Zooming Speed and Pattern on Using IPTV by Zoomable User Interface**
Samuel Sangkon Lee, Haeng-Suk Chae
5. **Malware Similarity Analysis Based on Graph Similarity Flooding Algorithm**
Jing Liu, Yongjun Wang, Peidai Xie, Yuan Wang, Zhijian Huang
6. **Cryptanalysis of Dynamic ID-based User Authentication Scheme using Smartcards without Verifier Tables**
Jaewook Jung, Yoonsung Choi, Donghoon Lee, Jiye Kim, Jongho Mun, Dongho Won

7. Device Dedication in Virtualized Embedded Systems

SooYoung Kim, Hyunwoo Joe, Dongwook Kang, Jin-Ah Shin, Vincent Dupre, Taeho Kim and Chaedeok Lim

16: 10-16: 20 Coffee break

16: 20-17: 40 Session A-4 : CUTE

(HALL A)

(Chair: Joon-min Gil)

1. EAP: Energy-Awareness Predictor in Multicore CPU

Dinh-Mao Bui, Thien Huynh-The, YongIk Yoon, SungIk Jun, Sungyoung Lee

2. Speech-to-Text-based Life Log System for Smartphones

Dongmahn Seo, Joon-min Gil

3. Adaptive Clustering of Merchandise Code for Recommender System with an Immediate Effect

Young Sung Cho, SongChul Moon

4. An Automatic Feedback System Based on Confidence Deviations of Prediction and Detection Models for English Phrase Break

Byeongchang Kim, Gary Geunbae Lee

5. A Hybrid Prediction Model integrating FCM Clustering Algorithm with Supervised Learning

Seokhwan Yang, Jieun Choi, Sanghoon Bae, Mokdong Chung

6. A New Visual Pet Activities Monitoring System Design

Yahya Imad Mohammed, Jong Myung Rhee

7. A Shipboard Secret Ballot System for the ICT-Isolated Ocean Crews

Jun-Ho huh, Taehoon Koh, Kyungryong Seo

8. Design of the Real-Time Mobile Push System for Implementation of the Shipboard Smart Working

Joonheung Park, Taehoon Koh, Jun-Ho Huh, Taeyoung Kim, Jeongho Lee, Jaesoon Kang, Donghyun Ju, Jeongdae Kim, Junwon Lee, Taewook Hwang, Youngjoon Park, Kyungryong Seo

9. Design and Implementation of the Basic Technology for Realtime Smart Metering System using Power Line Communication for Smart Grid

Jun-Ho Huh, Dong-Geun Lee, Kyungryong Seo

10. Specification and Monitoring GPS Signals

Gihwon Kwon

11. Generating Witness and Diagnostic Information for Signal Monitoring

Hyuck Kwon, Gihwon Kwon

16: 20-17: 40 Session B-4 : CSA

(HALL B)

(Chair: Hwang Il Hwang)

1. Group Awareness in Task Context-Aware E-mail Platform

Masashi Katsumata

2. Ubiquitous Bluetooth Mobile Based Remote Controller for Home Entertainment Centre

Andy Shui-Yu Lai, Ching-Laam Leung

3. **Robust Feature Design for Object Detection**
Woong Hu, Min-Su Koo, Jae-Hyun Nam, Byung-Gyu Kim, Sung-Ki Kim
4. **An Efficient Key Management Scheme for Advanced Metering Infrastructure**
Min-Sik Kim, Seung-Kyu Park, Hyo-Seong Kim, Kwang-il Hwang
5. **Data Analysis of Automated Monitoring System Based on Target Features**
Md Saiful Islam, Jung Chul Lee, J. P. Shin, Ui Pil Chong
6. **A Persistent Web Data Architecture with Named Data Networking**
Euihyun Jung
7. **Secure and Efficient Personalized Services based on User Experience for Optimizing Driver's Health Condition**
Jeong Kyu Lee, Saurabh singh, Jong Hyuk Park
8. **Certificateless based Public Key Infrastructure using a Hierarchical Identifier**
Hyungjin Im, Jae Woong Joo, Jong Hyuk Park

18: 00-20: 00 Reception

Day 3, December 17, 2015 (Thursday)

08: 40-09: 00 Registration

09:00-10: 30 Session A-5 : CUTE
(HALL A)
(Chair: Kwangman Ko)

1. **A Short-Range Tracking System based on Bluetooth Radio Identification: An Algorithm and Its Implementation**
Ibraheem Raed Altaha, Jong Myong Rhee
2. **Estimation of Human Social Relation based on Device Connectivity**
Dong-oh Kang, Changseok Bae
3. **Energy Consumption Reduction Technique on Smart Devices for Communication-intensive Applications**
Jonghee Youn, Doosan Cho, Yunheung Paek, Kwangman Ko
4. **A Context-Aware Framework for Mobile Computing Environment**
Hoon-Kyu Kim, Choung-Seok Kim, Kyung-Chang Kim
5. **A Zero-Watermark Scheme based on Spread Spectrum and Holography**
De Li, DaYou Jiang, Jong Weon Kim
6. **A Study on the Development of Real-time Analysis Monitoring System and Its Application of Medical Ins.**
Mi-Jin Kim, Jong-Wook Jang, Yun-Sik Yu
7. **OCSP Modification for Supporting Anonymity and High-speed Processing in Vehicle Communication System**
Jaewon Lee, Beom-Jin Choi, Seol-Hee Sun, Eun-Gi Kim
8. **IoT Based Smart White Cane for the Blind**
HwaMin Lee, SangWok Han, JuYoung Kim, SunA Baek and Min-Hyung Choi
9. **Grouping methods for malware variant similarity comparison**

Woo-Tak Jung, Chan-Kyu Park, Hyung-Shik Kim, Tae-Jin Lee, Jae-Cheol Ryou

09: 00-10: 30 Session B-5 : CUTE

(HALL B)

(Chair: Jin Gon Shon)

- 1. The Dynamic Unequal Clustering Routing Protocol Based on Efficiency Energy in Wireless Sensor Network**
Nurhayati
- 2. Parallel Balanced Team Formation Clustering Based on MapReduce**
Byoung Wook Kim, Won Gyu Lee, Jin Gon Shon
- 3. Design and Implementation of a Collaboration Messenger System based on MQTT Protocol**
Hyun Cheon Hwang, JiSu Park, Jin Gon Shon
- 4. Design and Implementation of LMS for Sharing Learning Resources in e-Learning**
Dae Hyun Lee, Yong Kim
- 5. Development of a Cursor for persons with Low Vision**
Jong Won Lee, JiSu Park, Jong Il Lee, Jin Gon Shon
- 6. An Estimation Filtering for Packet Loss Probability using Finite Memory Structure Strategy**
Pyung Soo Kim, Eung Hyuk Lee, Mun Suck Jang
- 7. Variational Bayesian Inference for Multinomial Dirichlet Gaussian Process Classification Model**
Wanhyun Cho, Sankyoon Kim, Soonja Kang
- 8. Elderly people activity recognition using a 3-axis accelerometer sensor of a smart phone**
Chang-Won Wang, Ye-Ji Na, Jong-Gab Ho, Se-Dong Min
- 9. Design and implementation of packet reassemble module using a multi—queue for network quarantine in SDN**
Myeong-Uk Song, Jun-Kwon Jung and Tai-Myoung Chung

10: 30-10: 40 Coffee break

10: 40-12: 10 Session A-6 : CUTE

(HALL A)

(Chair: Jea-Hui Cha)

- 1. Interactive Activity Recognition Using Articulated-Pose Features on Spatio-Temporal Relation**
Thien Huynh-The, Dinh-Mao Bui, Sungyoung Lee, Yongik Yoon
- 2. Implementation of Unified Gesture Library for Multiple-device Environments**
EunJi Song, Sunghan Kim, Geun-Hyung Kim.
- 3. Live Mobile Learning System with Enhanced User Interaction**
Jang Ho Lee and Haedong Hwang
- 4. Choreography Retrieval from the Korean POP Dance Motion Capture Database with Low-Cost Depth Cameras**
Dohyung Kim, Minsu Jang, Youngwoo Yoon, Jaehong Kim
- 5. Bayesian Probability-based Motion Estimation Method in Ubiquitous**

Computing Environments

Phil Young Kim, Yunsick Sung, Jonghyuk Park

- 6. Data Cascading Method for the Large Automotive Data Acquisition beyond the CAN Bandwidth in HiL Testing**

Jeong-Woo Lee, Ki-Yong Choi, Seung Yeun Jang, Jung-Won Lee

- 7. Erasure Codes Encoding Performance Enhancing Techniques using GPGPU based Non-sparse Coding Vector in Storage Systems**

Kwangsoo Lee, Huiseong Heo, Teagun Song, Deok-Hwan Kim ,

- 8. Implementation of Kegel Exercises for Prevention of Urinary Incontinence and Treatment Thereof**

Jea-Hui Cha, Jong-Wook Jang

- 9. Secure and Efficient Personalized Services based on User Experience for Optimizing Driver's Health Condition**

Jeong Kyu Lee, Saurabh singh, Jong Hyuk Park

- 10. Certificateless based Public Key Infrastructure using a Hierarchical Identifier**

Hyungjin Im, Jae Woong Joo, Jong Hyuk Park

10: 40-12: 10 Session B-6 : NUI/NUX

(HALL B)

(Chair: Niyonsaba Eric)

- 1. Immersive Dissection Simulator Using Multiple Volume**

Koojoo Kwon, Dong-Su Kang, Byeong-Seok

- 2. An Android-based Feed Behavior Monitoring System for Early Disease Detection in Livestock**

Saraswathi Sivamani, Honggeun Kim, Myeongbae Lee, Changsun Shin, Jangwoo Park, Yongyun

- 3. Location-Aware WBAN Data Monitoring System based on NoSQL**

Yan Li, Byeong-Seok Shin

- 4. Optimization of a Hybrid Renewable Energy System with HOMER**

Olly Roy Chowdhury, Hong-geun Kim, Yongyun Cho, Changsun Shin, Jangwoo Park

- 5. Efficient Character Input Scheme based on Gyro-Accelerometer Sensor for NUI**

Hyun-Woo Kim, Boo-Kwang Park, HwiRim Byun, Yoon-A Heo, Young-Sik Jeong

- 6. HMM Based Duration Control for Singing TTS**

Najeeb Ullah Khan, Jung Chul Lee

12: 10-13: 30 Lunch

13:30-15: 00 Session A-7 : CUTE

(HALL A)

(Chair: Mokdong Chung)

- 1. Development of Learner-centric Teaching-Learning Application Model for Ubiquitous Learning**

Ji-Hye Bae, Hyun Lee

2. **Design and Implementation of Disaster Information Alert System using Python in Ubiquitous Environment**
Jae-Pil Lee, Jae-Gwang Lee, Eun-su Mo, Jun-hyeon Lee, Jae-Kwang Lee
3. **Multiple Service Robot Synchronization and Control with Surveillance System Assistance for Confined Indoor Area Applications**
Doug Kim, Sangjin Hong, Namme Moon
4. **Environmental Monitoring over Wide Area in Internet of Things**
Sun Ok Yang, Joon-min Gil, Sunguk Kim
5. **A Study on the Localization Algorithm using RSSI and Directional Antennas between Sensor Nodes for the DV-HOP Algorithm**
MunSuck Jang, ByungChul Kim, PyungSoo Kim, EungHyuk Lee
6. **Framework of Service Accountability and Policy Representation for Trustworthy Cloud Services**
Hyejoo Lee, Hyun-il Kim, Changho Seo, Sang Uk Shin
7. **A Study of Security Level in Cloud Computing**
Eric Niyonsaba, Jongwook Jang
8. **A Log Regression Seasonality based Approach for Time Series Decomposition Prediction in System Resources**
Chul Kim, Sang-Hun Nam, Inwhee Joe
9. **Design of the Ferns Algorithm for Improvement the Performance of the Video Search System**
Jaesung Shim, Yongwan Ju, Seokcheon Park
10. **Design of the Table Shape Comparison Algorithm to Improve the Efficiency of Metadata Management System**
Seungsu Yang, Yongwan Ju, Seokcheon Park
11. **Design of Optimized Mechanism Using Bandwidth Routing Based on SDN**
Jaesung Shim, Yongwan Ju, Seokcheon Park

13: 30-15: 00 Session B-7 : NUI/NUX
(HALL B)
(Chair: Eui Chul Lee)

1. **Experimental Verification of Gender Differences in Facial Movement according to Emotion**
Yoonkyoung Kim, Eui Chul Lee
2. **Effective Similarity Measurement for Key-point Matching in Images**
Sungmin Lee, Seung-Won Jung, Chee Sun Won
3. **LIDAR Simulation Method for Low-cost Repetitive Validation**
Seongjo Lee, Dahyeon Kang, Seoungjae Cho, Sungdae Sim, Yong Woon Park, Kyhyun Um, Kyungeun Cho
4. **Posture Recognition Using Sensing Blocks**
Yulong Xi, Seoungjae Cho, Kyhyun Um, Kyungeun Cho
5. **Levenshtein Distance-based Posture Comparison Method for Cardiopulmonary Resuscitation Education**
Yunsick Sung, Ji Won Kim, Hyung Jin Park, Kyung Min Park
6. **Improved Location Estimation Method of Trilateration in Ubiquitous Computing Indoor Environment**
Jeonghoon Kwak, Hyunseok Jang, Yunsick Sung, Young-Sik Jeong

15: 00-15: 10 Coffee break

15:10-17: 40 Session A-8 : CUTE

(HALL A)

(Chair: Joon-min Gil)

1. **Financial Security Protocol and Service Model for Joint Account Banking Transaction**
JungJin Ahn, Eunmi Choi
2. **Secure Framework for Software Defined based Internet of Things**
SeongHo Choi, Jin Kwak
3. **Secure Data Access Control Scheme for Smart Homes**
Ho-Seok Ryu, Seul-Ki Choi, Jin Kwak
4. **Secure Traffic Data Transmission Protocol for Vehicular Cloud**
Lewis Nkenyereye, Kyung Hyune Rhee
5. **Secure Deletion for Flash-Based Self-Encrypting Drives**
Hanwook Lee, Jongho Mun, Jiye Kim, Youngsook Lee, Dongho Won
6. **Cryptanalysis of User Authentication Scheme Preserving Anonymity for Ubiquitous Devices**
Dongwoo Kang, Jongho Mun, Donghoon Lee, Dongho Won
7. **Mutual Authentication Scheme based on GSM for NFC Mobile Payment Environments**
Sung-Wook Park, Im-Yeong Lee
8. **A Study on the Defense MITM with Message Authentication in WLAN Environments**
Ji-Hoon Hong, Nam-Uk Kim, Tai-Myoung Chung
9. **Author Identification and Analysis for Papers, Reports and Patents**
Kwang-Young Kim, Seok-Hyoung Lee, Jung-Sun Yoon, Beom-Jong You
10. **A Novel Seamless Redundancy Protocol for Ethernet**
Nguyen Xuan Tien, Jong Myung Rhee
11. **Compaction method for overlapping read pathways**
Gangman Yi

15: 10-17: 40 Session B-8 : CSA

(HALL B)

(Chair: Fei Hao)

1. **The Effects of Information Quality on Mental Model and Interactivity in a Smartphone Context**
Wonjin Jung
2. **The Effect of Information Quality on User Loyalty towards Smartphone Applications**
Wonjin Jung
3. **Load Shedding for Window Queries over Continuous Data Streams**
Kwang Rak Kim, Hyeon Gyu Kim
4. **Performance Comparison of Relational Databases and Columnar Databases using Bitmap Index for Fast Search of 10Gbps Network Flows**
Sunoh Choi, Hyun-Wook Park, Joo-Young Lee, Jong-Hyun Kim, Ik-Kyun Kim
5. **Business Informatics Management Model**
Alena Buchalcevova, Jan Pour
6. **Design of Secure Protocol for Session Key Exchange in Vehicular Cloud**

Computing

Jungho Kang, Jong Hyuk Park

7. **Zero-Knowledge Authentication for Secure Multi Cloud Computing Environments**
Hyungjoo Kim, Hyunsoo Chung, Jungho Kang
8. **PUF-based Privacy Protection Method in VANET Environment**
Mansik Kim, Wonkyu Choi, Ayoung Lee, Moon-seog Jun
9. **Design of Authentication Protocol Based on Distance-Bounding and Zero-Knowledge for Anonymity in VANET**
Minjin Kim, Keun-Chang Choi, Hanna You, Moon-seog Jun
10. **Design of Exploitable Automatic Verification System for Secure Open Source Software**
Bumryong Kim, Jun-ho Song, Jae-Pyo Park, Moon-seog Jun
11. **User Authentication Method Design based on Biometrics in a Multi-Cloud Environment**
Seokhwa Song, JaeSeung Lee, Jaesik Lee, Moon-seog Jun
12. **A Study on Framework for Developing Secure IoT Service**
Miyeon Yoon, Jonghyun Baek
13. **Group Data Sharing Scheme based on Attribute Encryption in Cloud Computing for IoT**
Deok Gyu Lee

18: 00-20: 00 Banquet

Conference Venue



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Crimson Resort and Spa Mactan is located in the City of Lapu-Lapu and connects to the main island of Cebu by two main bridges. As the oldest Spanish settlement and a significant business center in the Philippines, Cebu City has something for everyone. Those interested in history can visit Magellan's cross and the nearby 400 year old Basilica Minore del Santo Nino, for which the famous Sinulog Festival is celebrated on the 3rd Sunday of January. Those who love art and furniture can visit the showrooms of award-winning furniture designers. And of course, for those who simply want to wander about on their own, we will be happy to provide you a map, tips, a few local phrases and wish you all the joy of discovery.