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Ilsun You · Chun-Cheng Lin (Eds.)

IoT as a Service

Third International Conference, IoTaaS 2017
Taichung, Taiwan, September 20–22, 2017
Proceedings

Springer

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ISSN 1867-8211 ISSN 1867-822X (electronic)
Lecture Notes of the Institute for Computer Sciences, Social Informatics
and Telecommunications Engineering
ISBN 978-3-030-00409-5 ISBN 978-3-030-00410-1 (eBook)
https://doi.org/10.1007/978-3-030-00410-1

Library of Congress Control Number: 2018954066

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Preface

We are delighted to introduce the proceedings of the Third European Alliance for Innovation (EAI) International Conference on IoT as a Service (IoTaaS 2017). This conference brought together researchers, developers, and practitioners from around the world who are leveraging and developing technologies and applications for IoT as a service.

The technical program of IoTaaS 2017 consisted of 46 full papers that were presented at the conference. Aside from the high-quality technical paper presentations, the technical program also featured two keynote speeches and three special sessions. The two keynote speeches were given by Imrich Chlamtac from EAI/CREATE-NET/University of Trento and Tao Zhang from CISCO. The three special sessions organized were Wearable Technology and Applications (WTAA), Building Smart Machine Applications (BSMA), and Security and Privacy in the Internet of Things, Services, and People (SP-IoTSP). The WTAA special session aimed to address the challenges of maintaining the high efficiency of WTAA in terms of high recognition rate, energy consumption, computational costs, and so forth. The BSMA special session aimed to explore how to construct smart machine architecture for industry against the background of IoT and big data. The SP-IoTSP special session aimed to investigate recent research and future directions for IoTSP security and privacy.

Coordination with the steering chair, Imrich Chlamtac, and the steering committee members, Benny Mandler, Yi-Bing Lin, and Der-Jiunn Deng, was essential for the success of the conference. We sincerely appreciate their constant support and guidance. It was also a great pleasure to work with such an excellent Organizing Committee team and we thank them for their hard work in organizing and supporting the conference. We are particularly grateful to the Technical Program Committee, led by our TPC co-chairs, Prof. Der-Jiunn Deng and Prof. Ilsun You, who completed the peer-review process of technical papers and put together a high-quality technical program. We are also grateful to Conference Manager Michaela Miklusakova for her support, and all the authors who submitted their papers to the IoTaaS 2017 conference and special sessions.

We strongly believe that the IoTaaS conference provides a good forum for researchers, developers, and practitioners to discuss all aspects of science and technology that are relevant to IoT as a service. We also expect that future IoTaaS conferences will be as successful and stimulating, as indicated by the contributions presented in this volume.

August 2018

Yi-Bing Lin
Der-Jiunn Deng
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Chun-Cheng Lin

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The Applications for IoT Sensor Bricks (Abstract of Poster and Demo)

Chun-Ming Huang, Chih-Chyau Yang, Yi-Jie Hsieh, Yi-Jun Liu, Wei-Lin Lai, Jun-Ying Juan, Chun-Yu Chen, Shian-Wen Chen, and Chien-Ming Wu

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Abstract. In this demonstration, the applications of IoT sensor bricks [1] including the color sensor system, temperature/UV sensor system, SpO2 sensor system, motion sensor system and alcohol sensor system are presented. Users can stack multiple sensor bricks together to build a unique IoT sensor system according to the requirements. The corresponding APPs of smart phone for 6 sensor systems are used to interact with visitors to experience the IoT sensor bricks. A video [2] is played to introduce the features of this commercial product and its sample applications in life. The firmware development/debug environment including the debug hardware and its GNU tool chains are also explained in this demonstration. Visitors can therefore understand that the proposed IoT sensor bricks is a modular wireless sensing system which features an open architecture and reusability. It has a sharable power supply unit, a computing unit, a communication unit, an output unit, and a sensing unit. The IoT sensor bricks can be disassembled and assembled at will; it is equipped with NFC, Bluetooth communication and wireless charging. Data gathered by IoT sensor bricks can be converted to useful applications and displayed in the smart phone. The demo materials for each sensor system include the alcohol swabs for the alcohol sensor system, pantone color paper for the color sensor system etc. are utilized to facilitate the demonstration.

Fig. 1. The IoT sensor bricks and its smart phone applications

Keywords: Internet of Things (IoT) · Wearable · Sensor bricks
Sensor platform

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Contents

IoTaaS Main Track

Contention Window Size Adjustment in Unsaturated IEEE 802.11 WLANs 3
Chun-Hsien Sung and Der-Jiunn Deng

Interoperability in Internet of Things Infrastructure: Classification, Challenges, and Future Work 11
Mahda Noura, Mohammed Atiquzzaman, and Martin Gaedke

Orientation Training System for Elders with Dementia Using Internet of Things 19
Lun-Ping Hung, Chien-Liang Chen, Chien-Ting Sung, and Chia-Ling Ho

Demand-Based Radio Resource Allocation for Device-to-Device Communications: A Game Approach 27
Chih-Cheng Tseng and Jyun-Yao Shih

A Cooperative RBAC-Based IoTs Server with Trust Evaluation Mechanism 36
Hsing-Chung Chen

Home Healthcare Matching Service System Using IoT 43
Tzong-Shyan Lin, Pei-Yu Liu, and Chun-Cheng Lin

Medical Internet of Things and Legal Issues Regarding Cybersecurity 50
Chien-Cheng Chou

Fuzzy-Based Protocol for Secure Remote Diagnosis of IoT Devices in 5G Networks 54
Vishal Sharma, Jiyoon Kim, Soonhyun Kwon, Ilsun You, and Hsing-Chung Chen

An Overview of 802.21a-2012 and Its Incorporation into IoT-Fog Networks Using Osmotic Framework 64
Vishal Sharma, Jiyoon Kim, Soonhyun Kwon, Ilsun You, and Fang-Yie Leu

A Distributed Power Control Scheme for the Mitigation of Co-Tier Downlink Interference for Femtocell in the Future 5G Networks 73
Kuo-Chang Ting, WenYen Lin, and Chia-Pin Wang

Analyzing Traffic Characteristics and Performance for LTE Uplink Resource Allocation 86
Fang-Chang Kuo

Reusing Resource Blocks by Efficient Grouping for D2D in LTE Networks 94
Fang-Chang Kuo, Kuo-Chang Ting, Chih-Cheng Tseng, and Jia-Hao Xu

An IoT Platform for Smart Plant Care 101
Whai-En Chen, Ming-Yih Chang, Kuan-Lin Chou, and Jin-Qiu Shi

Dandelion Mirror: An Interactive Visual Design Using IoTtalk 108
Chung-Yun Hsiao, Chih-Chieh Huang, Yi-Bing Lin, and Yun-Wei Lin

Metaheuristic-Based Scheme for Spectrum Resource Schedule Over 5G IoT Network 117
Yao-Chung Chang, Shih-Yun Huang, and Han-Chieh Chao

A Fuel-Efficient Route Plan App Based on Game Theory 126
Chi-Lun Lo, Chi-Hua Chen, Jin-Li Hu, Kuen-Rong Lo, and Hsun-Jung Cho

Personalized Mobile Learning System via Smart Glasses 136
Yi-Ting Tsai, Shih-Jou Yu, Xin-Yen Chen, Oscal Tzyh-Chiang Chen, Jerry Chih-Yuan Sun, and Ching-Chun Huang

Retransmission-Based Access Class Barring for Machine Type Communications 145
Jian-Wei Ciou, Shin-Ming Cheng, and Yin-Hong Hsu

A Study on Online Corrosion Risk Perception Technology for Process Industry Safety IoTs Based on Demands of Assets Integrity Management . . . 155
Liang Xiong, Guanglei Lv, Guangpei Cong, Fengqi He, Shi He, and Yunjiang Sun

A Machine Learning Based PM2.5 Forecasting Framework Using Internet of Environmental Things 170
Sachit Mahajan, Hao-Min Liu, Ling-Jyh Chen, and Tzu-Chieh Tsai

Improved Single Packet Traceback Scheme with Bloom Filters 177
Jia-Ning Luo and Ming-Hour Yang

Special Session: Wearable Technology and Applications (WTAA 2017)

Using Nonverbal Information for Conversation Partners Inference by Wearable Devices 187
Deeporn Mungtavesinsuk, Yan-Ann Chen, Cheng-Wei Wu, Ensa Bajo, Hsin-Wei Kao, and Yu-Chee Tseng

Enabling Over-The-Air Provisioning for Wearable Devices 194
Wei-Han Chen, Fuchun Joseph Lin, and YaHua Lee

Multiple User Activities Recognition in Smart Home. 202
YaHua Lee, Fuchun Joseph Lin, and Wei-Han Chen

Special Session: Building Smart Machine Applications (BSMA 2017)

D2D-Based Resource Saving and Throughput Enhancement for Massive Smart Devices in LTE eMBMS 213
Jeng-Yueng Chen and Yi-Ting Mai

Intelligent Trashcan Applications Relying on Internet of Things Technologies 221
Ye Chin Kiong, Chow-Yen-Desmond Sim, Ang Sinn, Ming-Fong Tsai, and Lien-Wu Chen

A Local Customizable Gateway in General-Purpose IoT Framework 230
Wen-Hsing Kuo and Min-Zheng Shieh

Analysis of Maximum Depth of Wireless Sensor Network Based on RPL and IEEE 802.15.4 234
Yun-Shuai Yu, Cheng-Che Huang, and Chih-Heng Ke

Poster and Demo

Lightweight, Low-Rate Denial-of-Service Attack Prevention and Control Program for IoT Devices 243
Chi-Che Wu, Wei Yang Wang, and Rung-Shiang Cheng

Special Session: Security and Privacy in Internet of Things, Services and People (SP-IOTSP 2017)

An Optimized Implementation of Speech Recognition Combining GPU with Deep Belief Network for IoT. 251
Weipeng Jing, Tao Jiang, Mithun Mukherjee, Lei Shu, and Jian Kang

Invited Papers

An Adaptive Solution for Images Streaming in Vehicle Networks Using MQTT Protocol 263
Ming-Fong Tsai, Thanh-Nam Pham, Fu-Hsiang Ching, and Le-Hung Chen

Development of Path Planning Approach Based on Improved A-star Algorithm in AGV System 276
Yan Zhang, Ling-ling Li, Hsiung-Cheng Lin, Zewen Ma, and Jiang Zhao

A Self-administered Healthcare Warning Mechanism Based on Internet of Things 280
Lun-Ping Hung, Hsiu-An Lee, and Chien-Lian Chen

IoT Service Provider Recommender Model Using Trust Strength 286
Weiwei Yuan, Chenliang Li, Donghai Guan, Guangjie Han, and Feng Wang

Research on the Condition Monitoring of Transmission and Transformation Equipment Based on Improved Support Vector Machine in the Internet of Things 294
Chao Fu, Qing Lv, Chong Li, Yun Feng, and Xiao-li Li

A Dynamic Detection Point Frame Length Adjustment Method for RFID Anti-collision 308
Xiaoning Feng, Zhuo Wang, Bijun Yan, Guangjie Han, Feng Wang, and Xue Song

Fault Diagnosis and Monitoring Device Design for the Electrical Life Test of Low Voltage Circuit Breaker 316
Jungang Zhou and Zhigang Li

Mainland China

Sound-Wave Transmission System in Mobile Device. 333
Ching-Lung Chang, Meng-Lun Cai, and Yu-Shiang Shiau

UE-Group Based Multi-beams Subchannel Assignment for mmWave Cellular Networks (Invited Paper) 340
Zhongjiang Yan, Mao Yang, Bo Li, Yusheng Liang, and Xiaoya Zuo

SVC Based Multiple Access Protocol with QoS Guarantee for Next Generation WLAN (Invited Paper) 349
Run Zhou, Bo Li, Mao Yang, and Zhongjiang Yan

Light-Weight Global Feature for Mobile Clothing Search. 357
Guangshan Wen, Jing Wu, Chengnian Long, and Yi-Bing Lin

Spatial Clustering Group Based OFDMA Multiple Access Scheme for the Next Generation WLAN (Invited Paper) 365
Yong Li, Bo Li, Mao Yang, and Zhongjiang Yan

T-SCMA: Time Domain Sparse Code Multiple Access for Narrow Band Internet of Things (NB-IoT) (Invited Paper) 373
Zhenzhen Yan, Bo Li, Mao Yang, Zhongjiang Yan, and Zhicheng Bai

Semi-granted Sparse Code Multiple Access (SCMA) for 5G Networks (Invited Paper) 381
Mao Yang, Bo Li, Zhicheng Bai, Xiaoya Zuo, Zhongjiang Yan, and Yusheng Liang

A Flow Network Based Backhaul Path Planning Algorithm for mmWave Small Cell Networks (Invited Paper) 389
Zhongyu Ma, Bo Li, Zhongjiang Yan, Mao Yang, Xiaoya Zuo, and Bo Yang

Author Index 399