Welcome to COMPSAC 2012!

On behalf of the Organizing and Program Committees, we happily welcome you to Izmir, to attend the 36th Annual International Computer Software and Applications Conference (COMPSAC). The technical theme of this year’s COMPSAC focuses on foundations, methodologies, architectures, and mechanisms that support modeling, design, implementation, and evaluation of trustworthy software systems and applications that are critical for the digital society. As such, “Trustworthy Software Systems for the Digital Society” forms this year’s theme. The keynote, program features, research and industrial practice papers, and panels with a wide range of topics, focusing on the secure use of clouds to software engineering of critical infrastructure systems such as, but not limited to, civil, telecommunications, and medical systems. To properly engineer such systems, the foundations, methodologies, and mechanisms that support the design, modeling, and evaluation of software systems must come from diverse sources. To secure such systems, security methodologies and techniques must be applied.

Topics of interest of this year’s COMPSAC include requirement analysis, co-analysis and co-design, modeling, design, development, testing, measurement, verification and validation for performance, safety, security, dependability, and usability constraints, and use of novel infrastructures including the cloud. Effective construction of systems for the digital society is not limited solely to the field of computer science and engineering and is truly a multidisciplinary effort. Multidisciplinary work, research and development software prototypes, industry-university collaborations, all based on new emerging and critical technologies are all part of COMPSAC.

We take this opportunity to thank the Track Chairs, Organization Chairs, and members of the Program Committee (PC) who have worked tirelessly soliciting and reviewing papers, and have participated in the PC program discussions and selected papers for the final technical program. We thank the reviewers for their hard work in providing quality reviews for each paper. We specifically acknowledge the contributions of the Program Chairs Xiaoying Bai, Atilla Elci, and Mohammad Zulkernine in creating and setting the program. Special thanks are extended to Professor Carl Chang for his enthusiastic contribution to the entire technical program development process and for his serving as the Standing Committee Chair and to the faculty, staff, and students at Iowa State University for running conference websites and paper submission system and to the IEEE CS staff for organizing the PC meeting in Los Angeles. Finally, we wish to specially thank Tugkan Tuglular for his excellent local arrangements in Izmir and Laurel Tweed for all her work in several organizational aspects of the conference.

We also thank all the keynote speakers, panelists, and authors for their contribution to the exciting technical program in COMPSAC 2012.

We trust that COMPSAC 2012 will provide you with a valuable opportunity to interact with other researchers and practitioners from institutions around the world.

Enjoy!!

General Chairs,
Fevzi Belli and Elisa Bertino

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**Monday July 16**

ICT Vision for Izmir Search Conference
COMPSAC/SAINT Welcome Reception
Sponsored by Izmir Municipality

Buses will depart from Swissotel at 16:00 for a short tour of the area, landing at the Izmir fair area, location for the ICT Vision for Izmir Search Conference. This conference seeks to explore ways for the city of Izmir to encourage the growth of technology-based industry and research. All COMPSAC/SAINT attendees are welcome to attend! Reception and social hour will follow. Attendees who can only attend the reception should gather in the Swissotel lobby at 19:30 for a guided walk to the reception location.

17:00 - 20:00: ICT Vision for Izmir Search Conference
20:00 - 21:30: Welcome Cocktail Reception
21:30: Walk back to Swissotel

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**Tuesday July 17**

Conference Banquet

The COMPSAC/SAINT banquet will be an outdoor gala at the archaeological ruins of Old Smyrna called Agora.

18:30: Walking from Swissotel to Agora
19:00: Tour
20:00: Dinner
21:30: Walking back to Swissotel

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**Wednesday July 18**

Bus Trip to Ephesus

Local organizers have arranged for a bus trip for all conference attendees to visit Ephesus. Once an ancient Greek city, today Ephesus is a major archeological site located approximately 1 hour south of Izmir. Purchase dinner following the tour at Kusadasi, a nearby town on the Aegean coast.

Buses will depart from Swissotel at 16:00
17:00: Arrival at Ephesus
17:00 - 19:30: Tour at Ephesus and House of Virgin Mary
19:30: Board bus for Kusadasi
20:00 - 21:30: Time for exploring, dinner
21:30: Board bus for return trip to Swissotel, Izmir
### COMPSAC 2012: Program at a Glance

#### July 16: Workshop Day

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30-9:30</td>
<td>MidArch, SSS, METHOD: Invited Talk</td>
<td>MOVED TO 12:30PM</td>
</tr>
<tr>
<td>9:30-10:00</td>
<td>Morning Break: Grand Efes 3 (1st floor)</td>
<td>Conference Welcome, Opening Remarks, Best Paper Awards Joint COMPSAC/SAINT Keynote: George Strawn - Trust and Confidence Chair: Carl Chang</td>
</tr>
<tr>
<td>10:00-12:00</td>
<td>Konak 1/2 (3rd floor)</td>
<td>Software Life Cycle, Evolution &amp; Maintenance 1 Reliability, Metrics &amp; Fault Tolerance I Software Testing I Panel 1</td>
</tr>
<tr>
<td>12:00-13:30</td>
<td>Lunch: Smyrna Auditorium</td>
<td>Smyrna 1</td>
</tr>
<tr>
<td>15:00-15:30</td>
<td>Afternoon Break: Smyrna Auditorium 1 (5th floor)</td>
<td>Smyrna 2</td>
</tr>
<tr>
<td>15:30-17:00</td>
<td>Smyrna 3</td>
<td>Software Life Cycle, Evolution &amp; Maintenance 3 Security Software Architecture &amp; Design 2 Panel 2</td>
</tr>
</tbody>
</table>

#### Tuesday July 17: Conference Day 1

<table>
<thead>
<tr>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td>8:30-10:00</td>
<td>Grand Efes Ballroom (1st floor): Conference Welcome, Opening Remarks, Best Paper Awards Joint COMPSAC/SAINT Keynote: George Strawn - Trust and Confidence Chair: Carl Chang</td>
<td></td>
</tr>
<tr>
<td>10:00-12:30</td>
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</tr>
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<tr>
<td>15:00-15:30</td>
<td>Afternoon Break: Smyrna Auditorium 1 (5th floor)</td>
<td>Smyrna 2</td>
</tr>
<tr>
<td>15:30-17:00</td>
<td>Smyrna 3</td>
<td>Software Life Cycle, Evolution &amp; Maintenance 3 Security Software Architecture &amp; Design 2 Panel 2</td>
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</tbody>
</table>

#### Wednesday July 18: Conference Day 2

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30-10:00am</td>
<td>Grand Efes Ballroom (1st floor): Welcome Speech, Turhan Menteş, President, Informatics Association of Turkey Joint COMPSAC/SAINT Keynote: Ross Anderson - Cyber Security: Threats Real and Imagined Chair: Elisa Bertino</td>
<td></td>
</tr>
<tr>
<td>10:00-12:00</td>
<td>Konak 1/2 (3rd floor)</td>
<td>Requirements Engineering Panel 3 Formal Methods Fast Abstracts: 10:15-12:30</td>
</tr>
<tr>
<td>12:00-13:30</td>
<td>Lunch: Smyrna Auditorium</td>
<td>Smyrna 1</td>
</tr>
<tr>
<td>13:30-15:00</td>
<td>Grand Efes Ballroom: COMPSAC/SAINT Joint Panel on Social Computing</td>
<td>Smyrna 2</td>
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</tbody>
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**Thursday July 19: Cloud Day**

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Session</th>
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</thead>
<tbody>
<tr>
<td>8:30-10:00</td>
<td>Grand Efes Ballroom (1st floor): Joint COMPSAC/SAINT Panel on Cloud Computing Chair: Vladimir Getov</td>
<td></td>
</tr>
<tr>
<td>10:00-10:30</td>
<td>Morning Break: Smyrna Auditorium 2 (5th floor)</td>
<td>Cloud Computing I Web-Based Systems Applications I Panel 4 Industry Track Doctoral Symposium (presentation session)</td>
</tr>
<tr>
<td>12:00-13:30</td>
<td>Lunch: Smyrna Auditorium</td>
<td>Smyrna 1</td>
</tr>
<tr>
<td>13:30-15:00</td>
<td>Afternoon Break: Smyrna Auditorium 3 (5th floor)</td>
<td>Mobile &amp; Pervasive Computing Applications 3 (Education) Panel 5</td>
</tr>
</tbody>
</table>

**Friday July 20: Workshop Day**

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Session</th>
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</thead>
<tbody>
<tr>
<td>10:00-12:00</td>
<td>Konak 1</td>
<td>Doctoral Symposium poster session also from 13:30-15:30 in Smyrna!</td>
</tr>
<tr>
<td>12:00-13:30</td>
<td>Lunch: Smyrna Auditorium</td>
<td>Smyrna 1</td>
</tr>
<tr>
<td>13:30-15:00</td>
<td>Konak 2</td>
<td>Doctoral Symposium poster session also from 13:30-15:30 in Smyrna!</td>
</tr>
<tr>
<td>15:00-15:30</td>
<td>Afternoon Break: Smyrna Auditorium 1 (5th floor)</td>
<td>Doctoral Symposium poster session also from 13:30-15:30 in Smyrna!</td>
</tr>
<tr>
<td>15:30-17:00</td>
<td>Smyrna 3</td>
<td>Doctoral Symposium poster session also from 13:30-15:30 in Smyrna!</td>
</tr>
</tbody>
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**Joint SAINT/COMPSAC Doctoral Symposium**

Presentation session: Thursday, 10:30am, Karsıyaka 3
Poster session: Thursday 1:30-3:30, Smyrna Auditorium (during the break)

All COMPSAC and SAINT attendees are encouraged to participate in the joint Doctoral Symposium. Participating Students have settled on a research topic for their dissertation or thesis and have produced some preliminary results, but have time to benefit from the advice and guidance of experienced researchers. In addition to the student presentations and posters listed in the program, other students attending the conferences are welcome to bring posters and discuss possibilities for future work with our conference attendees.

The joint poster session will take place from 1:30-3:30pm on Thursday - please stop by the poster displays and visit with our student researchers!
IEEE COMPSAC International Workshops: Monday July 16

8:30-9:30 Workshop Sessions

REFS 2012: The 6th IEEE International Workshop on Requirements Engineering for Services
Chair: Colette Rolland
Location: Grand Efes 2 (1st floor)
Keynote: A Business Transaction Framework Based on Problem Diagnosis and Resolution
Willem-Jan van den Heuvel

STA 2012: The 4th IEEE International Workshop on Software Test Automation
Chair: Rajesh Subramanayan
Location: Didim (3rd floor)
Keynote: Attack Surface Reduction through Software Testing
Tugkan Tuglular, Izmir Institute of Technology, Turkey

IWSC 2012: The 9th IEEE International Workshop on Software Cybernetics
Session 1
Location: Smyrna 2 (5th floor)
Welcome from General Chair:
Kai-Yuan Cai, Beijing Univ. of Aeronautics and Astronautics, China
Remarks from Chair of Steering Committee: Stephen S. Yau, Arizona State University, USA
Report from Program Co-chair: Xianping Tao, Nanjing University, China
Keynote Address: Software Cybernetics in the Age of Cloud Computing
Hong Zhu, Nanjing University, China

QUORS 2012: The 6th IEEE International Workshop on Quality Oriented Reuse of Software
Session 1: Software Evolution
Chair: Hongji Yang
Location: Bergama 2 (3rd floor)
8:30-8:50 Evaluating Extended Refactoring Guidelines
Wafa Basit
8:50-9:10 Quantifying Quality of Software Design to Measure the Impact of Refactoring
Tushar Sharma
9:10-9:30 Mining Association Rules to Facilitate Structural Recovery
Wu Ren

9:30-10:00 Morning Break – Grand Efes Foyer (1st floor)
10:00-12:00 Workshop Sessions

SSS 2012: The 5th IEEE International Workshop on Service Science and Systems
Session 1: Service Creation and Evolution
Chair: Xiaodong Liu
Location: Smyrna 1 (5th floor)
10:00-10:30 Automated Web Service Composition using Generic Programming
Liyuan Xiao, Carl K. Chang, Hen-y Yang, Kai-Shin Lu, Hsin-yi Jiang
10:30-11:00 User’s Requirements Driven Services Adaptation and Evolution
Ziyu Xu, Haihong Zhao, Lin Liu
11:00-11:30 An Adaptive Quality Level Selection Method for Efficient QoS-Aware Service Composition
Jae-Hyun Cho, Jang-Ho Choi, Han-Gyu Ko, In-Young Ko
11:30-12:00 A Novel Solution of Distributed File Storage for Cloud Service
Yu Zhang, Weidong Liu, Jiaxing Song

MidArch 2012: The 6th IEEE International Workshop on Middleware Architecture in the Internet
Chair: Atshshi Kanai

Location: Bergama 3 (3rd floor)
10:00-11:00 Invited Talk: Application Architecture Aiming for User-centric Information Discovery and Retrieval
Toru Kobayashi
11:00-11:30 Secure ID Transformation for Robust Pseudonymity against Backflow of Personal Information in SAML Federation
Wataru Oogami, Takaaki Komura, Yasuo Okabe
11:30-12:00 Secure Monitoring for Identity Federations and Distributed Systems
Miguel Macias Enguidanos, Jaime Perez Crespo

METHOD 2012: The 1st IEEE International Workshop on Methods for Establishing Trust with Open Data
Chair: Florian Skopik
Location: Konak 1 (3rd floor)
10:00-10:15 Welcome Address
Edzard Höfli, Ina Schieferdecker
10:15-10:45 Linked Open Data Aggregation: Conflict Resolution and Aggregate Quality
Tomáš Knap, Jan Michelfeit, Martin Necasky
10:45-11:15 Identification and Utilization of Components for a Linked Open Data Platform
Evanela Lapi, Nikolay Choltchev, Louay Bassbous, Florian Marienfeld, Ina Schieferdecker
11:15-11:45 Sensor Information Fueling Open Data
Miquel Oliver, Manuel Palacin, Albert Domingo, Victor Valls

IWSC 2012: The 9th IEEE International Workshop on Software Cybernetics
Session 2
Chair: Tugkan Tuglular, Izmir Institute of Technology, Turkey
Location: Smyrna 2 (5th floor)

CFSE 2012: The 4th IEEE International Workshop on Computer Forensics in Software Engineering
Chair: Vinod Polpaya Bhattathiripad
Location: Konak 2 (3rd floor)

Invited Talk: Research and Development of IT Risk Communication Support System and Its Application to Digital Forensic Issues
Ryoichi Sasaki

Cloud Log Forensics Metadata Analysis
Sean Thorpe, Indrajit Ray, Tyrone Grandison, Abbie Barbir
Takashi Sakuma, Ryoichi Sasaki

MVDA 2012: The 1st IEEE International Workshop on Modeling and Verifying Distributed Applications
Session 1: Algorithms and Platforms
Chair: Leila Jemni Ben Ayed

Location: Bergama 1 (3rd floor)
10:00-10:30  A Graphical Language to Integrate Process Algebra and State Machine Views for Specification and Verification of Distributed Real-Time Systems
    Jinho On, Sujeong Woo, Moonkun Lee
10:30-11:00  A BPEL4WS Extension to Develop and Execute Grid Service Workflow Application
    Youra Bendaly Hlaoui, Leila Jemni Ben Ayed, Imen Ben Fradj, Ahlem Ben Younes
11:00-11:30  A Distributed and Coordinated Massive DDOS Attack Detection and Response Approach
    Mohamed Karim Aroua, Belhassen Zouar

QUORS 2012: The 6th IEEE International Workshop on Quality Oriented Reuse of Software
Session 2: Reuse-Driven Design and Patterns
Chair: Xiaodong Liu
Location: Bergama 2 (3rd floor)
10:00-10:20  Towards Reuse-based Development for the On-Chip Distributed SoC Architecture
    Moazam Fareed Niazi, Tiberiu Sceleanu, Hannu Tenhunen
10:20-10:40  Performance Comparison of Combined Collaborative Filtering Algorithms for Recommender Systems
    Dilek Tapucu, Seda Kasap, Fatih Tekbacak
10:40-11:00  Simplifying the Design of Signature Workflow with Patterns
    Hwai-Jung Hsu, Ming-Wei Tsai, Feng-Jian Wang
11:00-11:20  A New Cohesion Metric and Restructuring Technique for Object Oriented Paradigm
    Mehmet Kaya, James W. Fawcett

REFS 2012: The 6th IEEE International Workshop on Requirements Engineering for Services
Session 2: RE for Services Adaptation and Evolution
Chair: Eric Yu
Location: Grand Efes 2 (1st floor)
10:00-10:20  Viewpoints and Issues in Requirements Engineering for Services
    Jolita Ralyte
10:20-10:40  A Goal-oriented Perspective on Approaches to Web Service Discovery
    Asar Said, Sousseyyet Carine, Aljoumaa Kadan
11:00-11:20  Software Service Evolution: A Requirements Perspective
    Feng-Lin Li, Lin Liu, John Mylopoulos
11:20-11:40  Representing Non-Functional Requirements on Services – A Case Study
    Clotilde Rohleder

SAPSE 2012: The 4th IEEE International Workshop on Security Aspects in Processes and Services Engineering
Chair: Stelvio Cimato
Location: Petek Boardroom (3rd floor)
10:00-10:30  Modeling of A-Posteriori Access Control in Business Processes
    Mohammad Karim Aroua, Belhassen Zouar
10:30-11:00  Petri-net-based Modeling and Resolving of Black Hole Attack in WMN
    Hejiao Huang, Qiang Zhou
11:00-11:30  Database as a Service: Towards a Unified Solution for Security Requirements
    Mohammad Ali Hadavi, Morteza Noferesti, Rasool Jailli, Ernesto Damiani

STA 2012: The 4th IEEE International Workshop on Software Test Automation
Session 2: Agile Software Testing
Chair: Selma Tekir
Location: Didim (3rd floor)
10:00-10:45  Invited Talk: Asynchronous Software Testing
    Robert Hierons

12:00-13:30  Lunch - Grand Efes Foyer (1st floor)
12:30-1:30

SSS 2012: The 5th IEEE International Workshop on Service Science and Systems

METHOD 2012: The 1st IEEE International Workshop on Methods for Establishing Trust with Open Data
MidArch 2012: The 6th IEEE International Workshop on Middleware Architecture in the Internet
Location: Smyrna 1 (5th floor)
13:30-15:00  Workshop Sessions

SSS 2012: The 5th IEEE International Workshop on Service Science and Systems
SSS Session 2: Service Marketing and Management
Chair: Yang Li
Location: Smyrna 1 (5th floor)
13:30-14:00  GARSS: A Generic Annotation and Recommendation Systems Service for Digital Repositories
    Xiaodong Huang, Yong Zhang, Chunxiao Xing
14:00-14:30  Material Hub: A Semantic Search Engine with Rule Reasoning
    Sen Ma, Wen Zhao, Shikun Zhang, Hang Zhang
14:30-15:00  Integrated QoS Utility-Based Model for Cloud Computing Service Provider Selection
    Maria Salama, Ahmed Shawish, Amir Zeid, Mohamed Kouta

MidArch 2012: The 6th IEEE International Workshop on Middleware Architecture in the Internet
Chair: Shigeaki Tanimoto
Location: Bergama 3 (3rd floor)
13:30-14:00  Flexible Access Control Framework Considering IdP-side’s Authorization Policy in Roaming Environment
    Toshiki Watanabe, Shunichi Kinoshita, Junichi Yamato, Hideaki Goto, Hideaki Sone
14:00-14:30  Implementation and Evaluation of an OpenFlow-based Access Control System for Wireless LAN Roaming
    Shunichi Kinoshita, Toshiaki Watanabe, Junichi Yamato, Hideaki Goto, Hideaki Sone
14:30-15:00  A Prototype of Network Failure Avoidance Functionality for SAGE Using OpenFlow
    Tomoya Furuichi, Susumu Date, Hiroaki Yamanaka, Kohei Ichikawa, Hirotaka Abe
IWSC 2012: The 9th IEEE International Workshop on Software Cybernetics
Session 3
Chair: Xiaping Tao
Location: Smyrna 2 (5th floor)

Distribution-aware Mutation Analysis
Chang-ai Sun, Guan Wang, Kai-Yuan Cai, Tsong Yueh Chen
A Reputation System for Trustworthy QoS Information in Service-Based Systems
Jun Lin, Changhui Jiang, Hai Hu, Kai-Yuan Cai, Stephen Yau, Dazhi Huang,
Program Behavior Analysis and Control for Online IDE
Ling Wu, Guangtai Liang, Qianxiang Wang

CFSE 2012: The 4th IEEE International Workshop on Computer Forensics in Software Engineering
Chair: Sean Thorpe
Location: Konak 2

Software Piracy Forensics: A Proposal for Incorporating Dead Codes and other Programming
Blunders as Important Evidence in ACF Test
Vinod Polpaya Bhattathiripad
Development of InfoVis Software for Digital Forensics
Grant Osborne, Benjamin Turnbull, Jill Slay

MVDA 2012: The 1st IEEE International Workshop on Modeling and Verifying Distributed Applications
Session 2: Emerging Techniques
Chair: Yousra Bendaly Hlaoui
Location: Bergama 1 (3rd floor)

13:30-14:00 UML AD Refinement Patterns for Modeling Workflow Applications
Ahlem Ben Younes, Leila Jemni Ben Ayed, Yousra Bendaly Hlaoui
14:00-14:30 An Efficient IPTV Distribution Technique under NAT Environment
Ming-Huang Chen, Yaw-Chung Chen, Wen-Kang Jia

QUORS 2012: The 6th IEEE International Workshop on Quality Oriented Reuse of Software
Chair: Feng-Jiang Wang
Location: Bergama 2 (3rd floor)

13:30-14:00 Performance Analysis of Reusable Components with Hybrid Modeling of Strategies and Processes
Sheau Ling Tan, Lin Liu
14:00-14:30 Translation Rules and a Supporting Tool for Model-based Reuse
Junfeng Zhao, Jiantao Zhou
14:30-15:00 Parallel Software Reuse Driven CPN Model Reduction and Analysis Approach
Tao Sun, Xinming Ye, Hongji Yang, Jing Liu

REFS 2012: The 6th IEEE International Workshop on Requirements Engineering for Services
Session 3: RE for Non-functional Requirements
Chair: Lin Liu
Location: Grand Efes 2 (1st floor)

Takao Okubo, Haruhiko Kiyai, Nobukazu Yoshika
13:50-14:10 Automated Reasoning with Goal Tree Models for Software Quality Requirements
Bo Wei, Zhi Jin, Didar Zowghi, Bin Yin
14:10-14:30 Improving Quality Software Requirements Specifications using Spectrum Analysis
Haruhiko Kiyai, Atsushi Ohnishi
14:30-14:50 The Concepts and Ontology of SISL: A Situation-Centric Specification Language
Haihua Xie, Carl K. Chang, Hua Ming, Kai-shin Lu
Jianchu Huang, Hongji Yang

SAPSE 2012: The 4th IEEE International Workshop on Security Aspects in Processes and Services Engineering
Chair: Stelvio Cimato
Location: Petek Boardroom (3rd floor)

13:30-14:00 Deriving Process-Related RBAC Models from Process Execution Histories
Anne Baumgras, Sigrid Schefrer-Wenzl, Mark Strembeck
14:00-14:30 Approximation Algorithms for Minimizing the Number of Roles and Administrative Assignments in RBAC
Hejiao Huang, Feng Shang, Jiangtao Zhang
14:30-15:00 Robust XML Watermarking Using Fuzzy Queries
Romaric-Ange Tchokpon, Nadia Bennani, Ernesto Damiani

STA 2012: The 4th IEEE International Workshop on Software Test Automation
Session 3: Testing Mobile and Open Software
Chair: Marek Stochel
Location: Didim (3rd floor)

15:00-15:30 Afternoon Break – Grand Efes Foyer (1st floor)
15:30-17:00 Workshop Sessions

SSS 2012: The 5th IEEE International Workshop on Service Science and Systems
Session 3: Service Paradigms in Industry
Chair: Lin Liu
Location: Smyrna 1 (5th floor)

15:30-16:00 Service Level Management for Service Value Networks
Frank Schulz, Wilke Michalk, Markus Hedwig, Marcus McCallister, Christof Mommm, Simon Caton, Christian Haas, Daniel Rolli, Monika Tavas
16:00-16:20 General Talk: Towards Cross-Domain Situation-Based Context Management and Highly Adaptive Pervasive Services
Xiaodong Liu
16:20-16:40 General Talk: Agent-Based Simulation and Its Applications to Service Management
Yang Li

MidArch 2012: The 6th IEEE International Workshop on Middleware Architecture in the Internet
Chair: Toru Kobayashi
Location: Bergama 3 (3rd floor)

15:30-16:00 Group Management System for Federated Identities with Flow Control of Membership Information by Subjects
Takeshi Nishimura, Motonori Nakamura, Makoto Otani, Kasuzusa Yamaji, Noboru Sonohara
16:00-16:30 Analysis of Security of PKI Operation with Multiple CP/CPS Based on Level of Assurance
Shigeki Tanimoto, Shinichi Mizuhara, Msasahiko Yoki, Hiroyuki Sato, Atsushi Kanai

METHOD 2012: The 1st IEEE International Workshop on Methods for Establishing Trust with Open Data
Chair: Edzard Höfig
Location: Konak 1 (3rd floor)

15:30-16:00 Attack Vectors to Metering Data in Smart Grids under Security Constraints
Florian Skopik, Zhendong Ma
16:00-16:30 Protecting Resources in an Open and Trusted Peer-to-peer Network
Tuesday July 17: Main Conference

8:30-9:00 Joint Opening Session - Grand Efes Ballroom (1st floor)
Conference Welcome: Elisa Bertino, COMPSAC General Chair
Welcome Remarks: Mustafa Güden, Rector, Izmir Institute of Technology
Tayfun Acar, President, of Information Technologies and Communications Board of Turkey
Binali Yıldırım, Minister of Transport, Maritime Affairs, and Communication
Opening Remarks: John Walz, President, IEEE Computer Society
Kazuo Furukawa, President, Information Processing Society of Japan
COMPSAC Program Overview/Best Paper Awards
Xiaoqing Bai, Atilla Elic and Mohammad Zulkernine
SAINT Program Overview/Best Paper Awards
Sumi Helal, Kazutoshi Fujikawa, and Ying Cai

9:00-10:00 Joint COMPSAC/SAINT Keynote
George O. Strawn, Director, National Coordination Office/NITRD, OSTP, USA
Session Chair: Carl K. Chang
Trust and Confidence
Abstract: As IT becomes increasingly pervasive in human affairs, it is important that IT systems be
worthy of trust and confidence. The U.S. Federal government includes an interagency research
collaboration program called Networking and IT Research and Development (NITRD). NITRD has a
major focus on interagency coordination for research in cybersecurity. In this talk, I will first make
some personal observations on cybersecurity, then describe the cybersecurity research agenda
recently proposed by the NITRD agencies, and conclude by relating a controversial proposal.

10:00-10:30 Morning Break – Smyrna Auditorium (5th floor)
10:30-12:00 Parallel Sessions
Software Life Cycle, Evolution and Maintenance I
Chair: Hong Zhu, Oxford Brookes University, UK
Location: Konak I/2 (3rd floor)

Effective Statistical Fault Localization Using Program Slices
Yan Le, Xianguang Mao, Ziyong Dai, Chengsong Wang
Recovering Traceability Links between Code and Documentation for Enterprise
Project Artifacts
Shouichi Nagano, Yusuke Ichikawa, Toru Kobayashi
A Source Code Recommender System to Support Newcomers
Yuri Malheiro, Alan Moraes, Cleyton Trindade, Silvio Meira

Reliability, Metrics and Fault Tolerance I
Chair: Kai-Yuan Cai, Beijing University of Aeronautics and Astronautics, China
Location: Bergama I (3rd floor)
Workload-Aware Online Anomaly Detection in Enterprise Applications with Local
Outlier Factor
Tao Wang, Wenbo Zhang, Jun Wei, Hua Zhong
A Metrics-Based Data Mining Approach for Software Clone Detection
Salwa Abd-El-Haffiz
A Petri Nets-based Byzantine Fault Diagnosis Method for Service Composition
Guisheng Fan, Huiqun Yu, Liqiong Chen, Dongmei Liu

Software Testing I
Chair: Rajesh Subramanyan, Siemens Corporate Research, USA
Location: Bergama 2/3 (3rd floor)

MVDA 2012: The 1st IEEE International Workshop on Modeling and Verifying Distributed Applications
Session 3: Formal Approaches
Chairs: Ahlem Ben Younes
Location: Bergama 1 (3rd floor)

15:30-16:00 Automatic Generation of an Operational CSP-Z Specification from an Abstract TemporalZ
Specification
Thouraya Guoïsmi, Amira Regayeg, Ahmed Hadj Kacem

16:00-16:30 A Semantics-Based Privacy-Aware Approach for Fragmenting Business Processes
Mohamed-Anis Zemni, Nejib Ben-Hadj Alouane, Mohamed Moez Yeddes

QUORS 2012: The 6th IEEE International Workshop on Quality Oriented Reuse of Software
Session 4: Cloud Computing Services and QoS
Chair: Lin Liu
Location: Bergama 2 (3rd floor)

15:30-16:00 A QoS Assurance Middleware Model for Enterprise Cloud Computing
Shou-Yu Lee, Dongyong Tang, Tingchao Chen, William Cheng-Chung Chu

Towards OWL 2 Notively Supported Fuzzy Cloud Ontology
Daren Fang, Xiaodong Liu, Imed Romdhani, Huiqun Zhao

16:30-17:00 SE-EQUAM – An Evolvable Quality Metamodel
Aseel Hmood, Iman Keivanloo, Juergen Rilling

REFS 2012: The 6th IEEE International Workshop on Requirements Engineering for Services
Location: Grand Efes 2 (1st floor)
Panel: Requirements Engineering for Services Evolution
Mediator: Lin Liu
Panelists:
Colette Rolland, Eric Yu, Jolita Ralyté, Zhi Jin, Willem-Jan van den Heuvel

STA 2012: The 4th IEEE International Workshop on Software Test Automation
Session 4: Testing Large Systems
Chair: Rob Hierons
Location: Didim (3rd floor)
Invited Talk: Recent Advances in Test Automation
Ina Schieferdecker

Mining Data Chain Graph for Fault Localization
Bo Yang, Ji Wu, Chao Liu
Effects of Class Imbalance in Test Suites: An Empirical Study of Spectrum-Based Fault
Localization
Gong Cheng, Zheng Zheng, Li Wei, Hao Peng
AdGrap tive Random Test Case Generation for Combinatorial Testing
Rubing Huang, Xiaodong Xie, Tsong Yueh Chen, Yansheng Lu
Capacity Evaluation of Multi-Modal Network Notification Service
J. Jenny Li, Colin L. Mallows, Jim Landwehr
Preemptive Regression Test Scheduling Strategies: A New Testing Approach to Thriving on the Volatile Service Environments
Lijun Mei, Ke Zhai, Bo Jiang, W.K. Chan, T.H. Tse

Panel 1: Trustworthiness of Open Source, Open Data, Open Systems and Open Standards
Location: Didim (3rd floor)
Chair: Ina Schieferdecker, Fraunhofer FOKUS, Germany
Panelists:
Estève Almirall – ESADE, Spain
Minghui Zhou – Peking University, China
Edzard Höfig – Free University Berlin, Germany

12:00-13:30 Lunch - Smyrna Auditorium
13:30-15:00 Parallel Sessions
Software Life Cycle, Evolution and Maintenance 2
Chair: Xiaping Tao
Location: Konak I/2 (3rd floor)

Integrating Software Product Lines: A Study of Reuse vs. Stability
Alessandro Gurgel, Francisco Dantas, Alessandro Garcia, Claudio Sant’Anna
Experiences of a Product Line Migration Project
Detlef Streiterdt, Arfan Mansoor
Kutula: A Domain-specific Language for Feature-driven Product Derivation
Orçun Dayıbaş, Halit Oğuztüzün
Automatic Adaptation of Software Applications to Database Evolution by Graph Differencing and AOP-based Dynamic Patching
Yang Song, Xin Peng, Zhenchang Xing, Wenyun Zhao

Reliability, Metrics and Fault Tolerance 2
Chair: Ahmet Koltukuz, Yasar University, Turkey
Location: Bergama I (3rd floor)

An Effective Defect Detection and Warning Prioritization Approach for Resource Leaks
Guangtai Liang, Qian Wu, Qianxiang Wang, Hong Mei
Evaluating Reliability-Testing Usage Models
Bo Wan, Gregor v Bochmann, Guy-Vincent Jourdan
Towards Online Localization and Recovery for Faulty Components in Component-Based Applications
Chao You, Minghui Zhou, Hongwu Lin, Zan Xiao, Hong Mei

Software Testing 2
Chair: Bengi Karacali, Avaya Labs, USA
Location: Bergama 2/3 (3rd floor)

CAtest: A Test Automation Framework for Multi-Agent Systems
Shuifeng Wang, Hong Zhu
Usefulness Evaluation of Simulation in Server System Testing
Jian Sun, Tomi Männistö
Towards Dynamic Random Testing for Web Services
Chang-Ai Sun, Guan Wang, Kai-Yuan Cai, Tsong Yueh Chen
How to Recommend Appropriate Developers for Bug Fixing
Tao Zhang, Byungjeong Lee

Software Architecture and Design I
Chair: Wenbo Zhang, Chinese Academy of Sciences, China
Location: Didim (3rd floor)

Adaptive Explanation Architecture for Maintaining Human-Computer Trust
Florian Nothdurft, Gregor Bertrand, Helmut Lang, Wolfgang Minker
Quality-Driven Self-Adaptation: Bridging the Gap between Requirements and Runtime Architecture by Design Decision
Liwei Shen, Xin Peng, Wenyun Zhao
A Rapid Development Framework for Multilingual Spoken Dialogue Systems
Masahiro Araki, Daishuke Takegoshi

15:00-15:30 Afternoon Break – Smyrna Auditorium (5th floor)
15:30-17:00 Parallel Sessions
Software Life Cycle, Evolution and Maintenance 3
Chair: Xiaodong Liu, Edinburgh Napier University, UK
Location: Konak I/2 (3rd floor)

ALTA: Automatic Load-time Adaption Technique for Refactoring-based Evolution of Software Component
Kai-Shin Lu, Carl K. Chang
An Initial Study on Refactoring Tactics
Hui Liu, Yuan Gao, Zhendong Niu
A Framework for Examining Topical Locality in Object-oriented Software
Nan Niu, Juha Savolainen, Tanmay Bhovmik, Anas Mahmoud, Sandeep Reddivari
Domain Independent Event Analysis for Log Data Reduction
Theodoros Kalamatzanos, Kostas Kontogiannis, Peter Matthews

Security
Chair: Murat Kantarcioglu, University of Texas at Dallas, USA
Location: Bergama I (3rd floor)

Preventing Input Validation Vulnerabilities in Web Applications through Automated Type Analysis
Theodoor Scholte, William Robertson, Davide Balzarotti, Engin Kirda
Real-time Fast-flux Identification via Localized Spatial Geolocation Detection
Horgn-Tser Wang, Kuo-Ping Wu, Ching-Hao Mao, Hahn-Ming Lee

Panel 2: Software Testing, Software Quality and Trust in Software-Based Systems
Location: Didim (3rd floor)
Chair: Christof Budnik, Siemens, US
Panelists:
Tory Kobayashi, NTT, Japan
Robert Hierons, Brunel University, UK
Rajesh Subramanyan, Siemens Corporate Research, USA

Software Architecture and Design 2
Chair: Fengjian Wang, National Chiao-Tung University, Taiwan
Location: Bergama 2/3 (3rd floor)

An Approach for Detecting Inconsistencies between Behavioral Models of the Software Architecture and the Code
Selim Ciraci, Hasan Sozer, Bedir Tekinerdogan
Fine-grained Design Pattern Detection
Maurice Lebon, Vassilios Tzerpos

Evening: COMPSAC/SAINT Conference Banquet (at Old Smyrna)
Cyber Security: Threats Real and Imagined

Abstract: In the 1980s and 1990s, the Internet was a benign place, so we invented scary monsters such as the Dolev-Yao opponent or the global passive adversary and figured out how to protect systems against them. From the late 1990s we started to see real adversaries, from spammers to carders to online state actors. By 2000 systems had become so large and complex that we needed to invent security economics to reason about them. But economic models alone are not enough; we also need to know what the bad guys are doing, how much they’re making, and what it costs the rest of us. Much of what’s written on this is exaggerated, as vendors, policemen and intelligence agencies all have an incentive to talk up the threats. I will discuss some analysis we did for ENISA and more recently at the suggestion of the UK Ministry of Defence in which we try to get a more defensible set of numbers, as well as a better handle on what might go wrong in the future. The data are beginning to suggest that we are extremely inefficient at fighting cybercrime; we might place less emphasis on protection (firewalls, antivirus etc) and more on response – on hunting down the bad guys and putting them in jail.

Room: Bergama I (3rd floor)
Chair: Dianxiang Xu, Dakota State University, USA
Note time: 10:15-12:30
Location: Didim (3rd floor)

Fast Abstract

Chair: Hiroyuki Sato, Tokyo University, Japan
Location: Grand Efes 2 (1st floor)

Paxos-Based Memory Data Replication in Stock Trading System
Sheng Huang, Yanghua Xiao, Yiqi Lu, Wei Wang
Model-based Static Source Code Analysis of Java Programs with Applications to Android Security
Zheng Lu, Supratik Mukhopadhy
A Change Proposal Driven Approach for Changeability Assessment Using FCA-based Impact Analysis
Xiaobing Sun, Bixin Li, Qiandong Zhang
A Methodology for Building Effective Test Models with Function Nets
Dianxiang Xu, William Chü

Requirements Engineering

Chair: Lin Liu, Tsinghua University, China
Location: Konak 1/2 (3rd floor)

Poster session in Smyrna Auditorium will run 10:00-13:30

Panel 3: Creative Computing: Reconciling Objective Precision with Subjective Ambiguity
Location: Bergama I (3rd floor)
Chair: Hongji Yang, De Montfort University, UK
Panelists:

- Rujian Lu - Academy of Mathematics and Systems Science, China
- Annotated Computing Changes the Way and Style of Computer Application
- Challenges for Creative Computing
- Using the Semantic Web Technologies to Support Automatic Animation
- Can Software Design Benefit from Creative Computing?

XMLSnippet: A Coding Assistant for XML Configuration Snippet Recommendation

Room: Bergama 2/3 (3rd floor)
Chair: Dianxiang Xu, Dakota State University, USA
Note time: 10:00-13:30
Location: Grand Efes 2 (1st floor)

WorldTour: Towards an Adaptive Software to Support Children with Autism in Tour Planning
Felipe Rodrigues Monteiro Sousa, Thais Helena Chaves de Castro
Implementation and Evaluation of Commodity Hardware and Software in an Open World Spoken Dialog Framework
Hareendra Manuru, Rajagopal Vasudevan, Ashok Sasidharan, Thomas Lynch, Seth
Thursday July 19, 2012: Main Conference

8:30-10:00  Grand Efes Ballroom: Joint COMPSAC/SAINT Panel: Challenges Toward the Global Adoption of Cloud Computing
            Chair: Vladimir Getov, University of Westminster, UK
            Panelists:
            C.C. William Chu, Tunghai University, Taiwan
            William Claycomb, Carnegie Mellon University, USA
            George Strawn, Director of the National Coordination Office (NCO), USA
            Stephen Yau, Arizona State University, USA

10:00-10:30  Morning Break: Smyrna Auditorium (5th floor)
10:30-12:00  Parallel Sessions

Cloud Computing I
            Chair: William R. Claycomb, Carnegie Mellon University, USA
            Location: Konak I/2 (3rd floor)
            Paas-Oriented Performance Modeling for Cloud Computing
            Wenbo Zhang, Xiang Huang, Ningjiang Chen, Wei Wang, Hua Zhong
            Event Indexing and Searching for High Volumes of Event Streams in the Cloud
            Miao Wang, Viliam Holub, John Murphy, Patrick O'Sullivan
            Demystifying Cloud Benchmarking Paradigm: An In-depth View
            Venugopalan Vedam, Jayanti Vemulapati

Web-Based System
            Chair: Weider Yu, San Jose State University, USA
            Location: Bergama 1 (3rd floor)
            An Evaluation Model for Dependability of Internet-scale Software on Basis of Bayesian Networks
            Guannan Si, Jufeng Yang, Jing Xu, Shuo Wen, Wei Tian
            Deriving Specifications for Composite Web Services
            George Baryannis, Manuel Carro, Dimitris Plexousakis
            On the Proactive Design of Aspect-Oriented Product-Line Architectures: An Exploratory Study
            William Oizumi, Antonio Contieri Junior, Guilherme Correia, Thelma Colanzi, Sandra Ferrari, Itana Gimenes, Edson Oliveira Junior, Alessandro Garcia, Paulo Cesar Masiero

Applications I
            Chair: Ying Cai, Iowa State University, USA
            Location: Bergama 2/3 (3rd floor)
            Americans With Disabilities Act - Compliance Assessment Toolkit on Smartphone
            Mohammad Tanviruzzaman, Rizwana Rizia, Sheikh Iqbal Ahamed, Roger Smith
            Automatic Data Clustering Analysis of Arbitrary Shape with K-means and Enhanced Ant-based Template Mechanism
            Wei Zhang, Hen-I Yang, Hsin-yi Jiang, Carl K. Chang
            Applying Knowledge Elicitation to Improve Web Effort Estimation: A Case Study
            Emilia Mendes, Manar AbuTalib, Steve Counsell

Industry Track
            Chair: M. Erdal Balaban, Isik University, Turkey
            Location: Grand Efes 2 (1st floor)
            Architecting Business Intelligence for SMEs
            Ayse Esr Baransel, Cezar Baransel
Agile Adoption Story from NHN
Eunha Kim, Seokmoon Ryoo
Educational Activity Finder for Children with Pervasive Developmental Disorder through a Semantic Search System
Duygu Çelik, Atilla Elçi, Eray Elverici, Necati İnan
A Scalable Physical Memory Allocation Scheme for L4 Microkernel
Chen Tian, Daniel Waddington, Jilong Kuang
Model Driven Software Development for Military Command and Control Systems
Burak Çiftlik, Onur Özoğan, Ahmet Bora Uysal

Panel 4: Cross-sectoral Challenging Objectives for Achieving Trustworthy Software
Location: Didim (3rd floor)
Chair: Baris Sarialioglu, Yapi Kredi Bank, Turkey
Panelists:
Ahmet Duran - Huawei Technologies, Turkey
Murat Lostar - ISACA, Turkey
Koray Yitmen - Turkish Testing Board, Turkey
Dr. Masood Mortazavi - Yahoo, USA

Doctoral Symposium: Presentation Session
Location: Karyyaka 3
Understanding Socio-technical Factors Influencing Testers in Software Development Organizations
Anca Deak

Cloud Computing Security Tutorial
With William R. Claycomb, Carnegie Mellon University, USA
Location: Grand Efes 2 (1st floor)

Cloud Computing 2
Chair: William Chu, Tunghai University, Taiwan
Location: Konak I (3rd floor)
CASVID: Application Level Monitoring for SLA Violation Detection in Clouds
Vincent C. Emeakaroa, Tiago C. Ferreto, Marco A. S. Netto, Ivona Brandic, Cesar A. F. De Rose
P-Tracer: Path-based Performance Profiling in Cloud Computing Systems
Haibo Mi, Haomin Wang, Hua Cai, Yangfan Zhou, Michael Lyu, Zhenbang Chen
A Solution For Privacy Protection In MapReduce
Quang Tran, Hiroyuki Sato

Smart and Semantic Computing
Chair: Juergen Rilling, Concordia University, Canada
Location: Bergama I (3rd floor)
Using Semantic Web Technologies for RBAC in Project Oriented Environments
Satyajeet Raje, Chowdary Davuluri, Micheal Freitas, Rajiv Ramnath, Jay Ramanathan

The RDFa Content Editor -- From WYSIWYG to WYSIWYM
Ali Khalili, Sören Auer
Semantic Web -- The Missing Link in Global Source Code Analysis?
Iman Keivanloo, Juergen Rilling, Philippe Charland
Enriching the DBpedia Ontology with Shared Conceptualizations from Folksonomies
Sana Hamdi, Alda Gancarski, Amel Bouzeghoub, Sadok Ben Yahia

Applications 2
Chair: Sheikh Iqbal Ahamed, Marquette University, USA
Location: Bergama 2/3 (3rd floor)

Cloud Computing Security Tutorial
With William R. Claycomb, Carnegie Mellon University, USA
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Applications 2
Chair: Sheikh Iqbal Ahamed, Marquette University, USA
Location: Bergama 2/3 (3rd floor)

Novel Energy Saving Opportunities in Smart Grids using a Secure Social Networking Layer
Florian Skopik, Christian Wagner
Privacy-Preserving Data Publishing for Free Text Chinese Electronic Medical Records
Lei Chen, Ji-Siang Yang, Qing Wang
Disease-disease relationships for rheumatic diseases
Andreas Holzinger, Klaus-Martin Simonic, Pinar Yildirim
A privacy-preserving cloud computing system for creating participatory noise maps
George Drosatos, Pavlos S. Efrahimidis, Ioannis N. Athanasiadis, Ellie D’Hont, Matthias Stevens

HCI and Usability
Chair: Masahiro Araki, Kyoto Institute of Technology, Japan
Location: Didim (3rd floor)
Influence of Anchor Management on Anchored Navigation in Mobile Maps
Rodrigo Mauês, Eduardo Nakamura, Simone D.J. Barbosa
Study of Fractal Color Image Compression using YUV components
Eman Al-Hilo, Loay Goerge
STREAM-ADD: Supporting the Documentation of Architectural Design Decisions in an Architecture Derivation Process
Diego Dermeval, João Pimentel, Carla Silva, Jaelson Castro, Emanuel Santos, Gabi Guedes, Márcia Lucena, Anthony Finkelstein

Mobile & Pervasive Computing
Chair: Sumi Helal, Univ of Florida, USA
Location: Bergama I (3rd floor)
Simulating Power Consumption of Location Tracking Algorithms to Improve Energy-efficiency of Smartphones
Ulrich Bareth
KnockAround: Location Based Service via Social Knowledge
Rizwana Rizia, Mohammad Tanviruzzaman, Sheikh Iqbal Ahamed
ConsView: Towards Application-specific Consistent Context Views
Haibin Yang, Chang Xu, Xiaoking Ma, Linghao Zhang, Chun Cao, Jian Lu
Applications 3 (Education)
Chair: W.K. Chan, City University of Hongkong, Hong Kong
Location: Bergama 2/3 (3rd floor)

An Agent-based Application to Enable Deregulated Energy Markets
Nicola Capodieci, Andrea Pagni, Giacomo Cabri, Marco Aiello

Teaching Software Engineering in Developing Countries: A Position Paper
Rasha Osman

Leveraging 24/7 Availability and Performance for Distributed Real-time Data Warehouses
Ricardo Jorge Santos, Jorge Bernardino, Marco Vieira

Real-Time and Embedded System
Chair: Tiberiu Seceleanu, ABB Corporate Research, Sweden
Co-chair: Khalid Latif, University of Turku, Finland
Location: Konak 1 (3rd floor)

Specification Mutation Analysis for Validating Timed Testing Approaches Based on Timed Automata
Mohammad Aboutrab, Steve Counsell, Robert Hierons

Automatic RT-Java code generation from AADL models for ARINC653-based avionics software
Ying Wang, Dianfu Ma, Yongwang Zhao, Lu Zou, Xianqi Zhao

Scheduling and analysis of real-time software families
Hamideh Sabouri, Mohammad Mahdi Jaghoori, Frank de boer, Ramtin Khosravi

Workshop Sessions: Friday July 20

IEESD 2012: The 4th IEEE International Workshop on Industrial Experience in Embedded Systems Design
Chair: Detlef Streitferdt
Location: Konak 1 (3rd floor)
10:00-10:30 Load Balancing for Cross Layer Communication
John F. Schommer, Dominik Franke, Tim Lange, Stefan Kowalewski

10:30-11:00 Development of a Mobile Platform to Support Building Maintenance Engineering
Paul Stack

11:00-11:30 An Estimation Model for the Savings Achievable by Tool Chains
Matthias Biehl, Martin Törngren

CORS 2012: The 4th IEEE International Workshop on Component-Based Design of Resource-Constrained Systems
Chair: Tiziana Margaria
Location: Konak 2
10:00-10:30 Performance Awareness in Component Systems: Vision Paper
Lubomir Bulej, Tomas Bures, Vojtech Horky, Jaroslav Keznik, Petr Tuma

10:30-11:00 Understanding the Role of Transmission Power in Component-Based Architectures for Adaptive WSN
Guillermo Rodriguez-Navas, Miquel A. Ribot, Bartomeu Alorda

11:00-11:30 Tool-supported Methodology for Component-based Design of Wireless Sensor Network Applications
Steffen Peter, Peter Langendoerfer

STPSA 2012: The 7th IEEE International Workshop on Security, Trust, and Privacy for Software Applications
Chair: Lorenzo Martino
Location: Bergama 1 (3rd floor)
10:00-10:30 Branch Obfuscation using Code Mobility and Signals
Zhi Wang, Chunfu Jia, Min Liu, Xiaoxu Yu

10:30-11:00 Detection of Buffer Overflow Vulnerabilities in C/C++ with Pattern based Limited Symbolic Evaluation
Sun Ding, Hee Beng Kuan Tan, Kaiping Liu, Hong Yu Zhang, Chandramohan Mahinthan

11:00-11:30 Towards a Secure Software Development Lifecycle with SQUARE+R
Weider Yu, Kyle Le

ESAS 2012: The 7th IEEE International Workshop on Engineering Semantic Agent Systems
Chair: R. Cenk Erdur
Location: Bergama 2 (3rd floor)
12:00-13:30 Lunch - Smyrna Auditorium

13:30-15:00 Workshop Sessions
IEESD 2012: The 4th IEEE International Workshop on Industrial Experience in Embedded Systems Design
TIP 2012: The 1st IEEE International Workshop on Tools in Embedded Systems Design Process
Chair: Tiberiu Seceleanu
Location: Konak 1 (3rd floor)
13:30-14:00 GcLite: An Expert Tool for Analyzing Garbage Collection Behavior
Vasileios Angelopoulos, Trevor Parsons, John Murphy, Patrick O’Sullivan
14:00-14:10 Integration and Analysis of Design Artefacts in Embedded Software Development
Daniel Merschen, Julian Pott, Stefan Kowalewski
14:30-15:00 Product Line Variability Model Construction based on Model Difference
Kunming Nie

CORCS 2012: The 4th IEEE International Workshop on Component-Based Design of Resource-Constrained Systems
Chair: Tiziana Margaria
Location: Konak 2 (3rd floor)
13:30-14:00 Extending EAST-ADL for Modeling and Analysis of System’s Resource-Usage
Raluca Marinescu, Eduard Paul Enoiu
14:00-14:30 Modelling the design for an SOA System to Control a Small Scale Energy Zone
Maria Anjum, David Budgen
14:30-15:00 Rule Based Axiomatic Design Theory Guidance for Software Development
Cengiz Togay, Emre Selman Caniaz, Ali Hikmet Dogru

STPSA 2012: The 7th IEEE International Workshop on Security, Trust, and Privacy for Software Applications
Chair: Chunfu Jia
Location: Bergama 1 (3rd floor)
Internet-Based Evaluation and Prediction of Web Services Trustworthiness
Meng Li, Zhebang Hua, Junfeng Zhao, Bing Xie
On Security Analysis of PHP Web Applications
David Hazur, Jan Kolofro
Measuring the Adequacy of Software Security Requirements Engineering
Nancy Mead

ESAS 2012: The 7th IEEE International Workshop on Engineering Semantic Agent Systems
Chair: Behnam Rahnama
Location: Bergama 2 (3rd floor)
Integrating Linked Data Space with Agents Using the Environment Abstraction
Riza Cenk Erdur, Oğuz Dikenelli, Oylum Alatlı, Erdem Eser Ekinci, Yiya Akar
An Image Processing Approach to Solve Labyrinth Discovery Robotics Problem
Behnam Rahnama, Attila Elci, Shadi Metani
Development of Semantic Model and Information Exploration System for TV Media
Duayg Celik, Attila Elçi, Esra Calik, Ayman Ahmad Khalil

15:00-15:30 Afternoon Break

STPSA 2012: The 7th IEEE International Workshop on Security, Trust, and Privacy for Software Applications
Chair: Kaiping Liu
Location: Bergama 1 (3rd floor)
Attack Model Based Penetration Test for SQL Injection Vulnerability
Wei Tian, Ju-Feng Yang, Jing Xu, Guan-Nan Si
An Efficient Graph Codec System for Software Watermarking
Maria Chroni, Stavros Nikolopoulos
A Certificate Based Context Aware Access Control Model for Smart Mobile Devices in Ubiquitous Computing Environments
Davut Cadvur, Ahmet Yortanlı, Pekin Erhan Eren, Altan Kocyigit

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Juha Savolainen, Danfoss, Finland

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Software Architecture and Design Track
Ivica Crnkovic, Malardalen University, Sweden
Dorina Petriu, Carleton University, Canada

Software Testing Track
Rajesh Subramaniam, Siemens, USA
T.H. Se, The University of Hong Kong, Hong Kong

Reliability, Metrics, and Fault Tolerance Track
Tadashi Dohi, Hiroshima University, Japan
Katerina Goseva-Popstojanova, West Virginia University

Security Track
Sheikh Iqbal Ahamed, Marquette University, USA
Murat Kantarcıoglu, University of Texas at Dallas, USA

HCI and Usability Track
Masahito Araki, Kyoto Institute of Technology, Japan
Ramon Lopez-Cozar Delgado, Universidad de Granada, Spain

Real-time and Embedded Systems Track
T. John Koo, Chinese Academy of Sciences, China
Tiberiu Seculeanu, ABB Corporate Research, Sweden

Mobile & Pervasive Computing Track
Boualem Benatallah, The University of New South Wales, Sydney, Australia
Zhen Liu, Nokia Research Lab, China

Smart Computing Track
Jinjun Chen, University of Technology, Sydney, Australia
Achilles Kameas, Hellenic Open University, Greece

Webs Semantics Track
Jeff Z. Pan, University of Aberdeen, UK
Juergen Rilling, Concordia University, Canada

Web Services and Systems Track
Paolo Bellavista, University of Bologna, Italy
Kenji Takahashi, NTT Multimedia Communications Lab, Japan

Cloud Computing Track
William R. Claycomb, Carnegie Mellon University, USA
William Chu, Tunghai University, Taiwan

Applications Track
Leong Hong-va, Hong Kong Polytechnic University, China
Sahra Sedigh, Missouri University of Science and Technology, USA

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