Future Trends in Service-Oriented Computing 2009

4th Symposium of the HPI Research School

HPI Hasso Plattner Institut
IT Systems Engineering | Universität Potsdam

Contents

The HPI Research School on Service-Oriented Systems Engineering

Hasso Plattner Institute for IT Systems Engineering: Profile of a Pioneering Institute

The Hasso Plattner Institute for IT Systems Engineering (HPI) at the University of Potsdam is unique in Germany for two key reasons: It was the first university institute in Germany financed entirely by private funds, offering a unique degree in „IT Systems Engineering" as an alternative to conventional computer science programs.

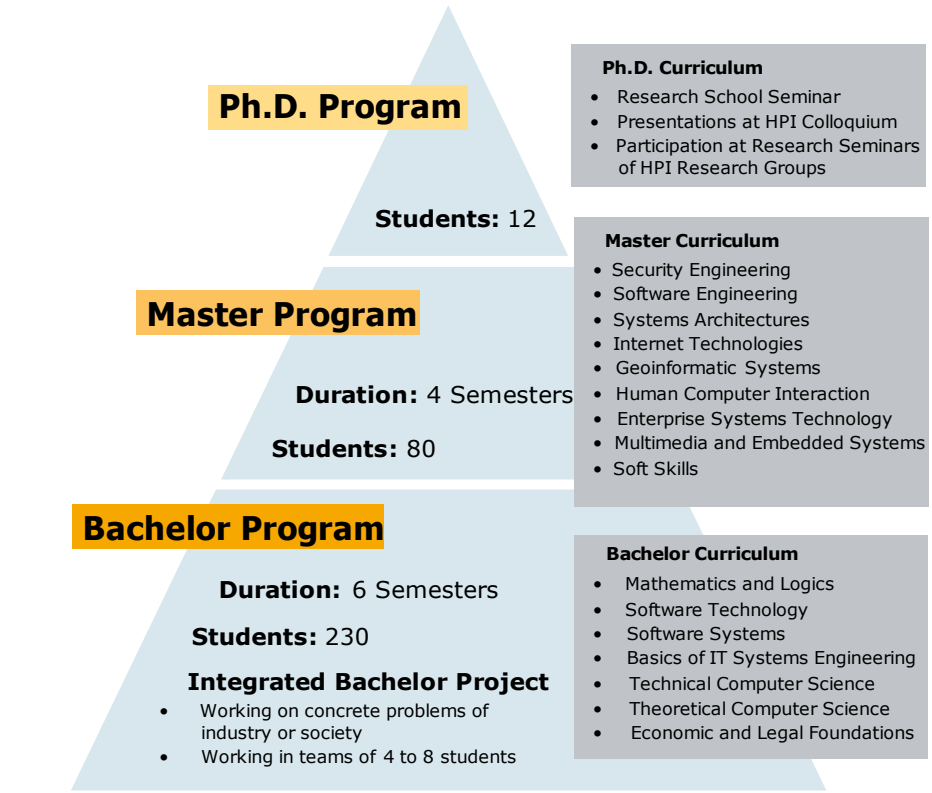
Since 1999, HPI has awarded over 200 Bachelor and more than 50 Master's degrees. Students formally receive their degrees from the University of Potsdam. The institute teaches more than 330 students in the design, development and control of complex IT systems. There are currently 50 professors, lecturers, and staff working at HPI.

Talented young professionals are educated to take on leading positions in the software industry, in order to establish a „culture of engineering" in IT Systems Engineering.

The HPI achieved excellent results in two major evaluations of IT schools in Germany, undertaken by the well-recognized Karriere magazine and the acknowledged Center for Higher Education Development (CHE). Both in the CHE-ranking of May 2006, and in the June 2006 edition of Karriere, HPI was ranked on the fourth place out of more than 100 institutions. Karriere refers to HPI as the „Shooting-Star in computer sciences".

HPI provides an outstanding student-teacher ratio, supported by latest technical and structural equipment. As a result, this pioneering Potsdam institute provides an entire new generation of scientific elites with the best study and research conditions available today.

One of the HPI's greatest priorities is the personal support of each individual student. Each year up to 80 of the best qualified applicants are accepted to the HPI where, in their first semester, they attend a seminar designed to guide them throughout their studies. A maximum of 40 students are accepted into the Master's Program each year in the summer semester. Every student is assigned a professor as a personal mentor; a sufficient number of computer workstations are available in the labs and seminar rooms. Tuition fees are not required.



Research Groups

- Enterprise Platform and Integration Concepts
- Internet Technologies and Systems
- Operating Systems and Middleware
- Business Process Technology
- Computer Graphics Systems
- Communication Systems
- Software Architecture
- Information Systems

A total of 26 Ph.D. Students in Hasso Plattner Institute Research Groups

HPI Research School

In October 2005, the HPI started its Research School on "Service-Oriented Systems Engineering", a graduate school based on the model of the DFG (German Research Foundation) "Graduiertenkolleg".

The Vision of the Research School

Design and implementation of service-oriented architectures impose numerous research questions from the fields of software engineering, system analysis and modeling, adaptability, and application integration.
Service-Oriented Systems Engineering represents a symbiosis of best practices in object orientation, component-based development, distributed computing, and business process management. It provides integration of business and IT concerns.
Service-Oriented Systems Engineering denotes a current research topic in the field of IT systems engineering with high potential in academic research as well as in industrial application. Supported by an internationally renowned grant, PhD students at our college participate in joint activities such as lectures, seminars, winter schools and workshops.

The Members of the Research School

The Professors of the HPI with their research group are supporting pillars for our PhD school. With its interdisciplinary structure, the research college on Service-Oriented Systems Engineering interconnects the HPI research groups and fosters close and fruitful collaborations.

In context of the research college, the different groups at HPI work on the following topics:

- Service-Oriented Geovisualization Systems (Prof. Dr. Jürgen Döllner)
- Tools and Methods for Software Engineering in Service-Oriented Systems (Prof. Dr. Robert Hirschfeld)
- Security Engineering of Service-Based IT Systems (Prof. Dr. Christof Meinel)
- Service-Oriented Information Integration (Prof. Dr. Felix Naumann)
- Evolutionary Transition of Enterprise Applications to Service-Orientation (Prof. Dr. h.c. Hasso Plattner)
- Operating System Abstractions for Service-Oriented Computing (Prof. Dr. Andreas Polze)
- Services Specification, Composition, and Enactment (Prof. Dr. Mathias Weske)
- Quantitative Evaluation and Optimization of Service-Oriented Systems (Prof. Dr. Werner Zorn)

On the Website of the Research School, please find latest information about the Ph.D. students, their research interests, joint projects, and events:

http://kolleg.hpi.uni-potsdam.de/

Agenda

Thursday, June 18, 2009

13:00-14:15	**Opening Remarks** Prof. Dr. Andreas Polze / Prof. Dr. Christph Meinel Welcome to the Research School on "Service-Oriented Systems Engineering" at Hasso Plattner Institute
13:15-14:00	**Keynote** Prof. Dr. h.c. Hasso Plattner Dealing with Very Large Datasets in Enterprise Systems
14:00-15:30	**Session 1 – Cloud Infrastructure** Tom Fahrig, Microsoft Corp., Redmond, USA Windows Azure – The OS for the Cloud Kay Baumgartel, IBM, Germany Social Computing from the Cloud – LotusLive
15:30-15:50	**Coffee Break**
15:50-17:20	**Session 2 – The Cloud from a Research Perspective** Prof. Dr. Stefan Tai, Karlsruhe Institute of Technology (KIT), Germany Cloud Service Engineering Prof. Johann-Christoph Freytag, Ph.D., Humboldt-Universität zu Berlin, Germany Databases in the Cloud – Business as usual??
17:20-17:40	**Coffee Break**
17:40-19:20	**Session 3 – Service Engineering in Academia** Dr. Adrian Giurca, BTU Cottbus, Germany Modelling Intelligent Mashups **IEEE Service Cup 2009 – Finalists from Europe** Volker Hoyer/Till Janner, SAP Research St. Gallen, Switzerland SAP Research RoofTop Marketplace: Putting a Face on Service-Oriented Architecture Mohammed AbuJarour, Hasso Plattner Institute, Potsdam, Germany Posr Steffen Preißler, Dresden University of Technology, Dresden, Germany Standing Processes in Service-oriented Environments Johannes Starlinger, Humboldt Universität zu Berlin, Berlin, Germany SOA-based Integration of Text Mining Services
20:00-23:00	**Social Event**

Friday, June 19, 2009

09:00-10:00	**Keynote** Prof. Dr. Henning Kagermann, SAP, Germany Experiences and Trends in Enterprise Computing
10:00-10:20	**Coffee Break**
10:20-11:50	**Session 4** Prof. Gary Marsden, Ph. D., University of Cape Town, South Africa ICT for the Developing World Stephan Kluth, Ivonne Thomas, Hasso Plattner Institute Research School, Potsdam, Germany Recent Findings in Service Computing
11:50-12:20	**Coffee Break / Quick Lunch**
12:20-14:20	**Session 5** Technion - Israel Institute of Technology, Haifa, Israel Scalable Computing – Software and Architecture Mohammad Mushfiqur Rahman Chowdhury, University of Oslo, Norway Mobile Supported Service Engineering: Proliferation of Heterogeneity, Dynamicity, Mobility, and Granularity Matthias Uflacker, Malte Appeltauer, Hasso Plattner Institute Research School, Potsdam, Germany Recent Findings in Service Computing

Speakers at a Glance

Prof. Dr. h.c. Hasso Plattner
SAP and Hasso Plattner Institute, Germany

Tom Fahrig
Microsoft Corp., Redmond, USA

Kay Baumgartel
IBM, Germany

Prof. Dr. Stefan Tai
Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany

Prof. Johann-Christoph Freytag, Ph.D.
Humboldt-Universität zu Berlin, Berlin, Germany

Dr. Adrian Giurca
BTU Cottbus, Cottbus, Germany

Volker Hoyer & Till Janner
SAP Research St. Gallen, Switzerland

Mohammed AbuJarour
Hasso Plattner Institute, Potsdam, Germany

Steffen Preißler
Dresden University of Technology, Dresden, Germany

Johannes Starlinger
Humboldt Universität zu Berlin, Berlin, Germany

Prof. Dr. Henning Kagermann
SAP AG, Germany

Prof. Gary Marsden, Ph.D.
University of Cape Town, Cape Town, South Africa

Mohammad Mushfiqur Rahman Chowdhury
University of Oslo, Oslo, Norway

Enterprise Applications – OLTP and OLAP – Share One Database Architecture

Prof. Dr. h.c. Hasso Plattner

SAP and Hasso Plattner Institute, Germany

When SQL and the relational data model was introduced 25 years ago as a general data management concept, enterprise software migrated quickly to this new technology. It is fair to say that SQL and the various implementations of RDBMSs became the backbone of enterprise systems. In those days we believed that business planning, transaction processing and analytics should reside in one single system. Despite the incredible improvements in computer hardware, high-speed networks, display devices and the associated software, speed and flexibility remained an issue.

The nature of RDBMSs, being organized along rows, prohibited us from providing instant analytical insight and finally led to the introduction of so-called data warehouses. This paper will question some of the fundamentals of the OLAP and OLTP separation. Based on the analysis of real customer environments and experience in some prototype implementations, a new proposal for an enterprise data management concept will be presented.

In our proposal, the participants in enterprise applications, customers, orders, accounting documents, products, employees etc. will be modeled as objects and also stored and maintained as such. Despite that, the vast majority of business functions will operate on an in memory representation of their objects. Using the relational algebra and a column-based organization of data storage will allow us to revolutionize transactional applications while providing an optimal platform for analytical data processing. The unification of OLTP and OLAP workloads on a shared architecture and the reintegration of planning activities promise significant gains in application development while simplifying enterprise systems drastically.

The latest trends in computer technology – e.g. blade architecture, multiple CPU's per blade with multiple cores per CPU allow for a significant parallelization of application processes. The organization of data in columns supports the parallel use of cores for filtering and aggregation. Elements of application logic can be implemented as highly efficient

stored procedures operating on columns. The vast increase in main memory combined with improvements in L1-, L2-, L3-caching, together with the high data compression rate column storage will allow us to support substantial data volumes on one single blade. Distributing data across multiple blades using a shared nothing approach provides further scalability.

Bio

Prof. Dr. h.c. Hasso Plattner is a co-founder of SAP AG and has been chairman of the supervisory board since May 2003. In this role and as chief software advisor, he concentrates on defining the mid- and long- term technology strategy and direction of SAP.

In 1972, Hasso Plattner and four colleagues left IBM in Mannheim, Germany, to found SAP (Systems, Applications, Products in Data Processing). Based in Walldorf, Germany, SAP AG is today the leading provider of enterprise software solutions, integrating processes within and among enterprises and business communities. He was also chairman of the board until 2003 and is currently the chairman of the supervisory board.

Hasso Plattner received his diploma in communications engineering from the University of Karlsruhe. In 1990, he received an honorary doctorate from the University of Saarbruecken, where he was also appointed as honorary professor for business information technology in 1994. In 2002, he was appointed an honorary doctorate by the University of Potsdam, where he also serves as an honorary professor since 2004 and leads a research group.

Windows Azure, the OS for the Cloud

Tom Fahrig

Microsoft Corp.,
Redmond, WA, USA

To deliver a cloud operating system that supports developing and managing scalable, available cloud services with lower OPEX/CAPEX and greater agility is the vision of this new OS for the cloud. This talk will describe the overall Windows Azure architecture before it dives into some of the details about the OS aspects.

Bio

Thomas Fahrig is currently working in the Windows Azure OS group at Microsoft. He is working on the Azure Hypervisor, OS and virtualization stack and doing performance analysis, debugging, troubleshooting, feature development and design. Prior to this Thomas Fahrig was a Development Lead for Microsoft Hyper-V in the Hypervisor team and was responsible for the Hypervisor Scheduler and other OS level.

Windows Azure, the OS for the Cloud

Kay Baumgartel

IBM Deutschland

Cloud computing is an emerging style of Information Technology infrastructure designed for rapid delivery of computing resources. Business or consumer services are delivered in a simplified manner, providing unbounded scale, differentiated quality, and with a user focus designed to foster rapid innovation and efficient decision making. IBM's LotusLive offers a variety of software as a service (SaaS) solutions for business ranging from e-mail and Web conferencing, to an integrated suite of collaboration solutions in a security rich environment. It allows to share documents, meet with potential customers/partners without the hassle of firewalls, and allows users to build a network by connecting with companies relevant to business needs. Every participant of the Symposium on Future Trends in Service-Oriented Computing is invited to join the LotusLive network.

Bio

Mr. Kay Baumgartel is leading the Lotus competitive team in IBM Germany. Mr. Baumgartel is focused on WebSphere Portal/WebSphere Accelerators, Lotus Collaboration Solutions and Cloud Computing/SaaS with LotusLive.
He joined IBM with the acquisition of PricewaterhouseCoopers (PwC) in 2002. Prior to his recent position in IBM he worked as business consultant and project manager for PwC in various international ERP implementations, especially in the area of Material Management and Plant Maintenance. He holds a master in technical computer science and started in IT on IBM hosts in SNA Network Management and application development on CICS, JCL and JES.

Cloud Service Engineering

Prof. Dr. Stefan Tai

Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany

Cloud Computing is emerging as a distributed computing model in support of „everything-as-a-service (XaaS)". Virtualized physical resources, infrastructure, as well as platforms and business applications are being provided and consumed as services in private, public, and hybrid Cloud environments. Consequently, new business opportunities and technical challenges arise when composing XaaS in service-oriented architectures. In this talk, we report on ongoing Cloud Service Engineering research at KIT (Karlsruhe Institute of Technology) and FZI Research Center for Information Technology in Karlsruhe, Germany. These include projects in cooperation with diverse industry partners, ranging from management of virtual private datacenters to building Cloud service mashups and estimating TCO of Cloud Computing.

Bio

Stefan Tai is Professor at KIT (www.kit.edu), University of Karlsruhe, and Director at the FZI Research Center for Information Technology (www.fzi.de) in Germany. He is Chair of „eOrganization", a new research group at the Applied Informatics Institute AIFB and the newly established Karlsruhe Service Research Institute (KSRI) at KIT. Prior to his appointments in Karlsruhe, Stefan worked for nearly nine years as a Research Staff Member at the IBM Thomas J. Watson Research Center in New York, USA.

Windows Azure, the OS for the Cloud

Prof. Johann-Christoph Freytag, Ph.D.

Humboldt-Universität zu Berlin, Berlin, Germany

This talk will briefly look at existing solutions before describing important challenges that need to be considered for databases running in the Cloud. In particular, we argue that this new computing paradigm might lead to a new database architecture that will replace the existing one that is almost 40 years old.

Bio

Johann-Christoph Freytag is currently full professor for Databases and Information Systems (DBIS) at the Computer Science Department of the Humboldt-Universität zu Berlin, Germany. Before joining the department in 1994 he was a research staff member at the IBM Almaden Research Center (1985-1987), a researcher at the European Computer-Industry-Research Centre (ECRC, in Munich, Germany, 1987-1989), and the head of Digital's Database Technology Center (also in Munich, 1990-1993).
Dr. Freytag holds a Ph.D. in Applied Mathematics/Computer Science from Harvard University, MA.
Dr. Freytag's research interests include all aspects of query processing and query optimization in object-relational database systems, new developments in the database area (such as data quality, databases in the cloud), privacy and database systems, and applying database technology to applications such as GIS, genomics, and bioinformatics/life science. In the last years he received the IBM Faculty Award four times for collaborative work in the areas of databases, middleware, and bioinformatics/life science.
He was a member of the VLDB Endowment until 2007; currently he is the head of the GI (Gesellschaft fuer Informatik)-Fachgruppe Datenbanken und Informationssysteme (DBIS).

Modeling Intelligent Mashups

Dr. Adrian Giurca

BTU Cottbus, Cottbus, Germany

This talk introduces intelligent mashups, their advantages and disadvantages together with the modeling approaches and technologies and plaforms involved. Basically, an intelligent mashup is a Web mashup using Artificial Intelligence reasoning techniques (such as rule-based reasoning), to obtain distinct and new capabilities and knowledge assets. Attending the talk you'll listen on how to model and build such applications including their business benefits.

Bio

Adrian GIURCA, born 1966, received its PhD in 2004 from the University of Bucharest, Romania. He is currently investigating methods and applications for information systems of the next generation especially (mashup based) reasoning on social media/software and reasoning on the Web and Semantic Web. Formerly, he worked on knowledge representation and logic programming.
Since 2005, he is a senior researcher at the Institute for Informatics of the Brandenburg University of Technology, Germany. From 1990 through 2004, he was with the Faculty of Mathematics and Computer Science from University of Craiova, Romania. During this time he was also consultant for a number of small size enterprises and has been involved in research projects founded by the European Commission (FP5, FP6). He has been member of the Network of Excellence REWERSE of the 6th Framework Program of the European Commission . He is regularly serving as a reviewer for international conferences and journals, and actively contributes to current research themes in web technologies.

SAP Research RoofTop: Putting a Face on Service-Oriented Architectures

Volker Hoyer

SAP Research St. Gallen, Switzerland

The huge demand for situational and ad-hoc applications desired by the mass of business end users cannot be fully covered by traditional Service-Oriented Architectures (SOAs). By putting a face on SOA, Enterprise Mashups empower these end users to combine and reuse Web-based resources within minutes to create value added applications. In our presentation, we introduce the SAP Research RoofTop Marketplace prototype that transfers established marketplace concepts to the Enterprise Mashup paradigm in order to leverage the power of peer production. The underlying concepts and the resulting architecture of the platform are presented. By means of a business scenario, the features of the grassroots Enterprise Mashup platform are demonstrated.

Bio Volker Hoyer

Volker Hoyer holds a diploma degree on Business Information Systems of the University of Hamburg, Germany. He also studied Business Administration at the Bordeaux Business School, France. Before joining SAP he gained experience in management consulting (LogicaCMG) at industrial projects in the utilities sector as well as in enterprise Web software development for strategic outsourcing projects (IBM e-Business Innovation Center). He is now working as a Research Associate and doctoral candidate at the Institute for Media and Communications Management (MCM Institute, University of St. Gallen) and at the SAP Research CEC St. Gallen, Switzerland. His research so far led to approximately 25 journal papers, conference papers, and book chapter. It includes, among others, Enterprise Mashups, Internet of Services, Cloud Computing, Cross-Organizational Business Processes, Enterprise Service-Oriented Architectures, Business Models and Business Cases.

Till Janner

SAP Research St. Gallen, Switzerland

Bio Till Janner

Till Janner holds a diploma degree on Business Information Systems of the University of Hamburg, Germany. Before joining the University of St. Gallen and SAP Research he gained experience in Enterprise Software Development while working on industrial projects in the utilities sector. He is now working as a Research Associate and doctoral candidate at the Institute for Media and Communications Management (MCM Institute, University of St. Gallen) and at the SAP Research CEC St. Gallen, Switzerland. His research so far led to approximately 35 journal papers, conference papers, and book chapter. It includes, among others, Enterprise Service-Oriented Architectures, Enterprise Interoperability and Data Standardization, Community Networks and Open-/ Co-Innovation.

Posr

Mohammed AbuJarour

Hasso Plattner Institute Research School, Potsdam, Germany

Recently, the number of public Web Services has been constantly increasing. Nevertheless, consuming Web Services by an end-user is not straightforward, because creating a suitable user interface for consuming a Web Service requires much effort. In this work, we introduce a novel approach where user interface fragments for consuming Web Services are pre-generated automatically, and aggregated and customized by end-users to match their preferences. Users can collaboratively improve the auto-generated user interfaces and share them among each other. Our three main sources of Web Services are explicit registration, automatic identification and collecting over the Web, as well as extraction and generation from existing web applications. Our system, PoSR, provides these features via an online system www.posr.ws.

Bio

Mohammed AbuJarour is a Ph.D. student at The Research School on Service-Oriented Systems Engineering at HPI since January 2008. He is a member of the Information Systems Research Group. Mohammed holds a M.Sc. degree in Computer Science from Saarland University / Max-Planck-Insitut für Informatik. His research focuses on Information Retrieval and Information Quality in SOA environments.

Standing Processes in Service-oriented Environments

Steffen Preißler

Dresden University of Technology, Dresden, Germany

Current realization techniques for service-oriented architectures (SOA) and business process management (BPM) cannot be efficiently applied to any kind of application scenario. For example, an important requirement in the finance sector is the continuous evaluation of stock prices to automatically trigger business processes—e.g. the buying or selling of stocks—with regard to several strategies. The approach of standing processes addresses the continuous evaluation of message streams within BPM to establish a common environment for stream-based message processing and traditional business processes. As a foundation, a developed stream-based service invocation procedure enables Web Service components to be used as streaming operators "in the small".

Bio

Steffen Preißler is research assistant and PhD-Student at the Database Technology Group of Professor Wolfgang Lehner, Department for Computer Science, Technische Universität Dresden since 2007. His research addresses data semantics in service-oriented architectures (SOA) with special interest in the integration of data stream processing into SOA-based components and concepts. Steffen Preißler studied Business Informatics at the Hochschule für Technik und Wirtschaft Dresden (FH). He wrote his diploma thesis regarding the support of data-intensive processes in SOA in close collaboration with IBM Deutschland Research and Development GmbH, Böblingen and the Database Technology Group, Dresden.

SOA-based Integration of Text Mining Services

Johannes Starlinger

Humboldt-Universität zu Berlin, Berlin, Germany

Text Mining has established itself as a valuable tool for knowledge extraction in many commercial and scientific areas. Accordingly, a large number of different methods have been developed focusing on a broad range of different tasks. We report on a novel system architecture that is fundamentally service-based, i.e., it models and implements text mining and knowledge extraction routines as independent, yet federated services. The system has several layers: (1) Base services perform various fundamental extraction tasks. They all implement a fixed interface but keep their particular algorithms and functionality. (2) A metaservice acting as a central access point to those base services, thus providing a homogeneous interface to different algorithms. (3) An aggregation service on top of the metaservice which implements functionality to graphically show, compare, and aggregate the results of different base services. Each layer is accessible as a Web Service and thus ready to be integrated in applications that are higher up in the value chain, such as authoring tools or systems for the automatic construction of knowledge bases. We developed our system with a focus on the mining of Life Science text collections. It is available from http://www.bc-viscon.net.

Bio

After studying medicine at the Medical University of Vienna, Johannes Starlinger started his study of Computer Science at the Humboldt-University in Berlin in 2005. Since November 2008 he's been working at the Department of ‚Knowledge Management in Bioinformatics' as a student assistant, focusing on information integration, databases and text mining. Apart from these topics he is especially interested in web development and web services. Due to Johannes' first course of study the biomedical background of his work is very important to him.

Experiences and Trends in Enterprise Computing

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Prof. Dr. Henning Kagermann

SAP, Germany

Bio

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ICT4D – Bringing Digital Technology to the Next Billion People

Prof. Gary Marsden, Ph.D.

University of Cape Town, Cape Town, South Africa

A lot has been written recently about the emerging field of ICT4D and how attempts are being made to bridge the global digital divide. In bridging this divide, however, it has become clear that new technologies and techniques are required to create ICT solutions that are appropriate and sustainable in a developing world environment. In this talk we will examine some of those new techniques, the environments in which they are deployed and even how ICT4D may lead to solutions for more developed economies.

Bio

Gary Marsden is an Associate Professor in the Computer Science Department at the University of Cape Town in South Africa. He is director of the ICT4D research centre and also the Cape Town branch of the Hasso Plattner Institute Research School. Besides ICT4D, his other research area is in Mobile Interaction Design, having written a book on this topic with Matt Jones in 2006. In 2007 he was awarded the ACM Social Impact Award for his work in applying Mobile Interaction Design in the field of ICT4D.

Scalable Computing – Software and Architecture

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Technion

Israel Institute of Technology, Haifa, Israel

Bio

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Mobile Supported Service Engineering: Proliferation of Heterogeneity, Dynamicity, Mobility, and Granularity

Mohammad Mushfiqur Rahman Chowdhury

University of Oslo, Kjeller, Norway

Service-oriented Computing (SOC) paradigm congregates application components into loosely coupled network of services span across organizational boundaries in a platform independent way. Application components are distributed over the network and the network of connected devices. The latter is envisioned as Internet of things. It has added new dimension to the information and communication technologies (ICTs) which enable communication at any time, from any place and between any things. Internet of things may bring SOC closer to realizing its full potential by including the heterogeneity, dynamicity, mobility, and granularity. New service composition and adaptation can be supported by the mobile devices and thus can address the growing demand of personalization and context awareness. Recently, privacy has become an important issue while dealing with user's profiles and preferences to tailor and personalize services according to user's needs. The presentation will focus how connected devices with their heterogeneity, dynamicity, and mobility can contribute to enrich SOC.

Bio

Mohammad Mushfiqur Rahman Chowdhury is a PhD candidate at the University of Oslo and working as Research Fellow at University Graduate Center -UNIK, Norway in the area of User Mobility and Service Continuity. He received his MSc from Helsinki University of Technology in Radio Communication. Before joining UNIK, Mr. Chowdhury worked as RF engineer in GrameenPhone, Bangladesh (a subsidiary of Telenor ASA, Norway).

His current areas of interest are identity representations and identity based service interactions, security and privacy on the Web, semantic technologies, seamless user experience in heterogeneous wireless networks and development of innovative service concepts for mobile environment.

Expansion of the Research School „Service-Oriented Systems Engineering“ at Hasso-Plattner-Institute

8 Ph.D. grants available - starting October 1, 2009

Hasso-Plattner-Institute (HPI) is a privately financed institute affiliated with the University of Potsdam, Germany. The Institute's founder and benefactor Professor Hasso Plattner, who is also co-founder and chairman of the supervisory board of SAP AG, has created an opportunity for students to experience a unique education in IT systems engineering in a professional research environment with a strong practice orientation.
In 2005, HPI initiated the research school in „Service-Oriented Systems Engineering“ under the scientific supervision of Professors Jürgen Döllner, Holger Giese, Robert Hirschfeld, Christoph Meinel, Felix Naumann, Hasso Plattner, Andreas Polze, Mathias Weske and Patrick Baudisch.
We are expanding our research school and are currently seeking

8 Ph.D. students (monthly stipends 1400-1600 Euro)
and
2 Postdocs (monthly stipend 1800 Euro)

Positions will be available starting October 1, 2009. The stipends are not subject to income tax.

The main research areas in the research school at HPI are:

- Self-Adaptive Service-Oriented Systems
- Operating System Support for Service-Oriented Systems
- Architecture and Modeling of Service-Oriented Systems
- Adaptive Process Management
- Services Composition and Workflow Planning
- Security Engineering of Service-Based IT Systems
- Quantitative Analysis und Optimization of Service-Oriented Systems
- Service-Oriented Systems in 3D Computer Graphics
- Service-Oriented Geoinformatics

Prospective candidates are invited to apply with:

- Curriculum vitae and copies of degree certificates/transcripts,
- A short research proposal,
- Writing samples/copies of relevant scientific papers (e.g. thesis, etc.),
- Letters of recommendation.

Please submit your applications before August 15, 2009 to the coordinator of the research school:

Prof. Dr. Andreas Polze
Hasso-Plattner-Institute
Universität Potsdam
Postfach 90 04 60
14440 Potsdam
Germany

Successful candidates will be notified by September 15, 2009 and are expected to enrol into the program on October 1, 2009.

For additional information, please see:

http://kolleg.hpi.uni-potsdam.de

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