Electronic Communications of the EASST Volume 11 (2008)



Proceedings of the First International DisCoTec Workshop on Context-aware Adaptation Mechnaisms for Pervasive and Ubiquitous Services (CAMPUS 2008)

Preface

Romain Rouvoy, Mauro Caporuscio, Michael Wagner

3 Pages

Guest Editors: Romain Rouvoy, Mauro Caporuscio, Michael Wagner Managing Editors: Tiziana Margaria, Julia Padberg, Gabriele Taentzer ECEASST Home Page: http://www.easst.org/eceasst/ ISSN 1863-2122



Preface

There is a huge market potential for mobile applications in Europe today. Most people already carry a mobile device of some sort wherever they go, and an increasingly diverse set of devices (PDAs, smart phones, GPS, etc.) are becoming widely available. Recently, serviceorientations (e.g., OSGi) have evolved to address these highly dynamic environments. However, it is still technically difficult, using existing method and tool supports, to create such services-oriented applications. For example, the very large range of devices, types of infrastructure, ways in which it can change, situations in which users can find themselves, and the functions they want, introduce great complexity and pose considerable technical challenges. To overcome these difficulties, and promote the development and widespread deployment of innovative mobile applications, more and more projects are addressing the development of context-aware adaptation mechanisms for leveraging the development of mobile applications. These projects aims at providing simple but powerful integrated approaches to support the development of applications interacting in pervasive and ubiquitous environments. Thus, the CAMPUS workshop will focus on the promising approaches in the domain of context aware adaptation mechanisms supporting the dynamic evolution of the execution context (e.g., network/device/service failures).

This volume contains the proceedings of the first workshop on Context-aware Adaptation Mechanisms for Pervasive and Ubiquitous Services, held in Oslo, Norway, June 3, 2008. The CAMPUS workshop is jointly organized by the MUSIC and PLASTIC IST projects. It provides a forum for scientists and engineers in academia and industry to present and discuss their latest research. The focus of the conference is the design, implementation, deployment, and evaluation of adaptive platforms and architectures for context-aware environments. This year, we had 20 submissions from 11 different countries, among which the top 7 technical papers and 5 position papers were selected for inclusion in the technical program of the workshop. All papers were evaluated by at least three reviewers with respect to their originality, technical merit, presentation quality, and relevance to the workshop themes. The selected papers present the latest results and breakthroughs on middleware research in areas of automotive systems, ubiquitous environments, pervasive environments, ambient computing, multimedia computing. We would like to express our deepest appreciation to the authors of the submitted papers, to all Program Committee members for their diligence in the paper review and selection process, and to all external reviewers for their help in evaluating submissions.

May, 2008

Romain Rouvoy Mauro Caporuscio Michael Wagner

Preface



Organization

Steering Committee

Frank Eliassen Kurt Geihs Svein Hallsteinsen Geir Horn Valérie Issarny University of Oslo, Norway University of Kassel, Germany SINTEF ICT, Norway SINTEF ICT, Norway INRIA, France

Organizing Committee

| Program chair: | Romain Rouvoy | University of Oslo, Norway |
|--------------------|------------------|-------------------------------|
| Publicity chair: | Mauro Caporuscio | INRIA, France |
| Publication chair: | Michael Wagner | University of Kassel, Germany |

Program Committee

Luciano Baresi Gordon Blair Mauro Caporuscio Licia Capra Denis Conan Vittorio Cortellessa Geoff Coulson Schahram Dustdar Frank Eliassen Kurt Geihs Svein Hallsteinsen Manuele Kirsch Pinheiro Joseph Loyall Per Håkon Meland Hassine Moungla Nearchos Paspallis **Roland Reichle** Romain Rouvoy Ulrich Scholz Lionel Seinturier Roberto Speicys-Cardoso Giovanni Toffetti Carughi Massimo Tivoli Nalini Venkatasubramanian Michael Wagner

Referees

Vidhya Balasubramanian Mikaël Beauvois Paul Grace Danny Hughes Daniel Massaguer Politecnico di Milano, Italy Lancaster University, UK INRIA, France University College of London, UK Intitut TELECOM, SudParis, France UDA, Italy Lancaster University, UK Vienna University of Technology, Austria University of Oslo, Norway University of Kassel, Germany SINTEF ICT, Norway K.U.Leuven, Belgium **BBN** Technologies, Massachusetts SINTEF ICT, Norway **INRIA**, France University of Cyprus, Cyprus University of Kassel, Germany University of Oslo, Norway European Media Laboratory GmbH, Germany University of Lille 1, France INRIA, France USI, Switzerland UDA, Italy University of California, Irvine University of Kassel, Germany

University of California, Irvine University of Oslo, Norway Lancaster University, UK Lancaster University, UK University of California, Irvine



Contents

Integration of Ontological Scene Representation and Logic-Based Reasoning for Context-Aware Driver Assistance Systems Simone Fuchs, Stefan Rass and Kyandoghere Kyamakya

Towards Self-evolving Context-aware Services Marco Autili, Paolo Di Benedetto, Paola Inverardi and Damien Andrew Tamburri

Survey: Agent-based Middlewares for Context Awareness Nabil Sahli

Reactive Context-Aware Programming Stijn Mostinckx, Andoni Carreton Lombide and Wolfgang De Meuter

Share Whatever You Like Sebastian Boehm, Johan Koolwaaij and Marko Luther

Enhancing Planning-Based Adaptation Middleware with Support for Dependability: a Case Study *Romain Rouvoy, Roman Vitenberg and Frank Eliassen*

Divide and Conquer - Organizing Component-based Adaptation Ulrich Scholz and Romain Rouvoy

Context-Aware Adaptation of Mobile Multimedia Presentations Diana Weiss, Johannes Martens and Stefan Helas

Model-Driven Adaptation of Ubiquitous Applications Carlos Parra and Laurence Duchien

Feature Interaction in Pervasive Computing Systems *Yu Liu and Rene Meier*

Learning-based Coordination of Distributed Component Deployment Yves Vanrompay, Yolande Berbers and Peter Rigole

"InstantSocial" - Implementing a Distributed Mobile Multi-user Application with Adaptation Middleware *Luís Fraga, Svein Hallsteinsen and Ulrich Scholz*