HCP-2008 Proceedings

Part II

MRC 2008 – Fifth International Workshop on Modelling and Reasoning in Context

Third International Conference on Human Centered Processes

June 8-12, 2008

Delft, The Netherlands

Workshop Organizers

Cassens Jörg, NTNU, Norway
Kofod-Petersen Anders, NTNU, Norway
Leake David, Indiana University, USA
Zacarias Marielba, Algarve University, Portugal

Managing Editor

Uguen Gurvan, Institut TELECOM/TELECOM Bretagne, France

Preface

The formalisation and use of context play a crucial role in many modern IT applications. The ability to be context-sensitive and context-aware, and to perform context-based reasoning, are essential not only for mobile and ubiquitous computing, but also for a wide range of other areas.

Achieving the desired context-sensitive behaviour from intelligent systems domains will require the ability to represent and manipulate information about a rich range of contextual factors. From an intelligent systems perspective, one of the main challenges for context-based processing is to integrate contextual knowledge with other types of knowledge as an additional source for reasoning, decision-making and adaptation, in order to form a coherent and versatile architecture.

The Modelling and Reasoning in Context (MRC) workshop series aims to provide a continuing forum for scientists and practitioners exploring modelling and reasoning issues and approaches for systems using context in a broad range of tasks, to share their problems and techniques across different research and application areas. The workshop series aim to facilitate both the presentation of state-of-the-art research as well as interactions through formal and informal discussions.

This year's workshop is the fifth in the Modelling and Reasoning in Context series. The workshop is being held in conjunction with the Third International Conference on Human Centered Processes (HCP-2008) in Delft, The Netherlands. We received twelve submissions for the workshop. Each submission was reviewed by at least three programme committee members. The committee decided to accept red eight papers for presentation and inclusion in the proceedings.

Models of context is an important issue, both when conveying information about situations and when systems are to reason about the current state of the world. Zhang and Hansen describe how to apply ontologies and rules to context identification. The authors employ OWL and SWRL to implement the use of context in ambient intelligent scenarios. The main focus is self-management in the sense of self-diagnostics and healing. The context ontology is realised in the Hydra middleware for ambient intelligent applications.

Wojciechowski and Xiong argue that most of the current context model does not have a focus that is suitable for the ambient assisted living domain. They describe a three layered context model, which encompasses the required levels for this type of domain. The model handles perception of the world through dynamic integration of context on the sensor level; definition of the context relevant for specific services as requested by users; and end-user interface that describes the context dependent services available in an ambient assisted living environment.

Spyrou et al. work on knowledge representation issues for describing relations among different types of image and video objects. They describe a contextual ontology and fuzzy relations between objects and concepts as well as a formal notation thereof.

The issue of reasoning in order to achieve contextually appropriate behaviour is dealt with in the paper by Aksenov et al. The authors address the challenge of redistributing user interfaces in a dynamically changing environment. They further focus on modelling and reasoning about spatial relations between objects in order to be able to decide when and how a redistribution should be done.

A central issue for multitasking knowledge workers is how to switch smoothly between contexts as tasks change or are interrupted. Biedert et al. present an approach to alleviating this problem through the use of a context-sensitive dashboard to facilitate recovery of a context state following interruptions. Their approach supports re-entry into a context and facilitates access to context-relevant resources such as _les, URLs, notes, and people.

Schwarz et al. address the problem of restoring context after task interruptions by adapting the multi-desktop paradigm into a multi-context interface, with different desktops stored for different contexts. In this work, automatic tagging and user-initiated search facilitate identification of a desired context to restore.

Some works shift the focus from context to action/interaction models and identify contexts from actions or interactions. Zacarias et al. describe how to discover personal action contexts from action repositories, and show results on clustering actions for their automatic discovery. The identification and characterization of personal action contexts is used to capture and represent individual and interpersonal work patterns.

Cram et al. describe how personal experiences can be captured as interaction traces and reused for user assistance purposes. The use of interaction traces allows context-aware applications to reason about ongoing situations, comparing current interactions with past interaction traces.

Anders Kofod-Petersen
Jörg Cassens
David Leake
Marielba Zacarias

HCP-2008 platform governance structure

Steering committee

Coppin Gilles, Institut TELECOM/TELECOM Bretagne, France   Chair of the Committee

Bisdorff Raymond, University of Luxembourg, Luxembourg
Brans Jean-Pierre, University of Brussels, Belgium
Lenca Philippe, Institut TELECOM/TELECOM Bretagne, France
Krarup Jakob, University of Copenhagen, Denmark

Program Committee

Brézillon Patrick, Université de Paris 6, France   Chair of the Committee

Adam Frédéric University College Cork, IR
Bisdorff Raymond, University of Luxembourg, LX
Borges Marcos, UFRJ-NCE, BR
Brans Jean-Pierre, VUB, BE
Brézillon Juliette, Université de Paris 6, FR
Burstein Frada, Monash U., AU
Crevits Igor U. Valenciennes ,FR
Cummings Missy, MIT, USA
Dagienne Valentina, Institute of Mathematics, LT
Giboin Alain, INRIA, FR
Gonzalez Avelino, U. Central Florida, US
Greco Alberto, U. of Genova, IT
Grisvard Olivier, Thalès, FR
Guerrero Luis, U. of Chili, CL
Guillet Fabrice, Université de Nantes, FR
Hoffman Robert, IHMC, US
Humphreys Patrick, London School of Econ & Poli Sci, UK
Kouadri Mostéfaoui, Ghita, U. of Oxford, UK
Lenca Philippe, Institut TELECOM/TELECOM Bretagne, FR
Linger Henry, Monash U., AU
Médini Lionel, Université de Lyon I, FR
Multisilta Jari, Tampere U. of Technology, FI
Nieuwenhuis Kees C. H. M., D-CIS Lab / Thales Research, NL
Pino José, University.of Chili, CL
Pomerol Jean-Charles, U. Paris 6, FR
Poulet François, ESIEA, FR
Roth-Berghofer Thomas U. Kaiserslautern, DE
Salgado Ana Carolina, UFPE, BR
Schultz Stefan, Carleton U., CA
Slowinski Roman, Poznan U. of Technology, PL
Tijus Charles, Université de Paris 8, FR
Turner Roy, U. Maine, US
Wijngaards, Niek, D-CIS Lab / Thales Research, NL
Zaslavsky Arkady, Monash U., AU

Workshop Committee

Lenca Philippe, Institut TELECOM/TELECOM Bretagne, France   Chair of the Committee

Brans Jean-Pierre, VUB, Belgique	WS OR and Ethics
Cassens Jörg, NTNU, Norway	WS MRC
Kofod-Petersen Anders, NTNU, Norway	WS MRC
Leake David, Indiana University, USA	WS MRC
Wenstøp Fred, BI,Norway	WS OR and Ethics
Zacarias Marielba, Algarve University, Portugal	WS MRC

Organization Committee

| Nieuwenhuis Kees C. H. M., DECIS Lab, The Netherlands | Local organization chair |
| Wijngaards Niek J. E., DECIS Lab, The Netherlands | Local organization chair |

Charfi Sofien, INT & LIP6, France   Web site Chair

HCP-2008 Sponsorships

D-CIS Lab

Université Pierre & Marie Curie (UPMC)

Institut TELECOM

Laboratoire d'informatique de Paris 6 (LIP6)

TELECOM Bretagne

Association Française pour le Contexte (AFC)

Association Extraction et Gestion des Connaissances (EGC)