

CAiSE'03

The 15th Conference on
Advanced Information Systems Engineering
Klagenfurt/Velden, Austria, 16 – 20 June, 2003

Information Systems for a Connected Society



Final Program

Welcome to CAiSE'03

CAiSE'03 is the 15th in the series of International Conferences on Advanced Information Systems Engineering. This edition continues the success of the previous conferences, a success largely due to that fact that, since its first edition, this series has been able to evolve in parallel to the evolution of the Information System methods and technology, following and often anticipating the deep changes that have occurred, since the late 70s when the first CAiSE Conference was organized by Arne Solvberg and Janis Bubenko.

"Information Systems for a Connected Society" has been chosen as the leading theme for this year's conference. A Connected Society is the goal of the confluence of information systems, telecommunication systems and their application in business, government as well as in everyday life. The scenario is complex from a technological point of view. The pervasiveness of infrastructures for modern information systems greatly extends the demands on engineering information systems in terms of scalability, quality, dependability and adaptability. Information Systems for a Connected Society will be multi-medial, multi-modal, multi-lingual, and multi-cultural. Situation and location awareness will allow users to cope with the complexity of these systems.

The conference venue is in an excellent location for talking about connected societies. The three major European language and culture groups: Romanic, Slavic and Germanic meet here. History teaches that „being connected“ - being within reach - is not enough for interacting, learning from each other, and sharing of achievements. It needs curiosity, and interest, and opportunity, and infrastructure, and ambition. This year's CAiSE is organized by people from three different countries in this Alps-Adriatic region - Austria, Italy, and Slovenia - to further demonstrate that borders diminish and become friendly interfaces in a Connected Society.

The conference week offers a very dense technical program. We hope that you nevertheless will find the opportunity to enjoy the surroundings: the lake, the green hills, the surprisingly changing perspectives of lakeside walks.

Welcome to CAiSE'03!

Johann Eder

Conference Organization

CAiSE Advisors:	Arne Sølvberg, NTNU Trondheim, Norway
	Janis Bubenko, KTH Stockholm, Sweden
General Chair:	Johann Eder, Universität Klagenfurt, Austria
Program Committee Chair:	Michele Missikoff, IASI-CNR, Roma, Italy
Poster Chair:	Tatjana Welzer, Univerza v Mariboru, Slovenia
Panel & Tutorial Chairs:	Hannes Werthner, Università degli Studi di Trento, Italy
	Martin Hitz, Universität Klagenfurt, Austria
Workshop Chairs:	Barbara Pernici, Politecnico di Milano, Italy
	Roland Mittermeir, Universität Klagenfurt, Austria
Organizer:	Institut für Informatik-Systeme Universität Klagenfurt, Austria

Program Committee

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Jensen C.S., DK	Orlowska M., AU		

Program Highlights

The conference theme “Information Systems for a Connected Society” is set forth in three **invited talks** by world renowned scientists:

Marek Rusinkiewicz (Telcordia, USA):
“Towards Self-Managing Large Scale Information Systems”

Katja Sycara (Carnegie Mellon University, USA):
“Autonomous Semantic Web Services”

Serge Abiteboul (INRIA, France):
“Managing an XML warehouse in a P2P Context”

Two **panels** offer a discussion on controversial topics: the engineering quality of current web-Engineering practices,

“Web Engineering – Software Crisis 3rd ed.?”

and the perspectives of mobile learning:

“Mobile Learning – Hype or Awarding Challenge?”.

In addition, the program includes **technical sessions** with presentations of 45 high-quality technical papers, carefully selected by the program committee out of 219 submissions.

The **CAiSE'03 Forum** is an experience: A platform for the rapid dissemination of recent results in form of posters and demos, based on peer-reviewed short papers. We expect the CAiSE Forum to be an interaction ground where people with similar interest can find each other. We hope to provide a stimulating setting for communication.

Workshops accompany the main conference. Some workshops have already a long tradition with CAiSE conferences and hence established their own proceedings series. Among those, we mention

The CAiSE Doctoral Consortium

EMMSAD'03 – 8th International Workshop on Evaluation of Modeling Methods in Systems Analysis and Design

REFSQ'03 – 9th International Workshop on Requirements Engineering Foundation for Software Quality

WES – Web-Services, e-Business, and the Semantic Web

Other workshops, like

UMICS'03 – Ubiquitous Mobile Information and Collaboration Systems

SW-WL'03 – Semantic Web for Web-based Learning

DSE'03 – Decision Systems Engineering Workshop

REBPS'03 – Workshop on Requirements Engineering for Business Process Support

are new components that were considered valuable additions to the CAiSE spectrum. They mark either areas of special focus in the traditional scope of CAiSE or they reach out, establishing links to other communities active in our discipline – connecting the scientific society.

CAiSE'03 is also the framework for a very special occasion, a **symposium** in honor of John Mylopoulos' 60th birthday with the title “From Conceptual Modeling to Computational Ontologies: The Saga Continues” explores the grand lines, themes, achievements and open challenges of research in conceptual modeling.

Monday 16 June

Workshops

08:00 – 18:00 **Registration**

08:30 – 17:30 **WS 1**
DC'03: Doctoral Consortium

Volksbank

09:00 – 17:30 **WS 2**
**REFSQ'03: Requirements Engineering:
Foundation for Software Quality**

Seehotel Europa

WS 3
**EMMSAD'03: Evaluation of Modeling Methods
in Systems Analysis and Design**

Kärnten Werbung

WS 4
**UMICS'03: Ubiquitous Mobile Information
and Collaboration Systems**

Hubertushof

WS 5
**WES'03: Web Services, e-Business
and the Semantic Web**

Seehotel Europa

WS 6
**SW-WL'03: Semantic Web for Web-Based
Learning**

Mösslacher

10:30 – 11:00 **Coffee break**

12:30 – 14:00 **Lunch**

15:30 – 16:00 **Coffee break**

19:00 – 22:00 **Workshop Reception**, Casineum

Organic Carinthian "Jause" will be served by local farmers

Tuesday 17 June

Workshops and Tutorial

08:00 – 18:00 **Registration**

08:30 – 17:30 **WS 1**
DC'03: Doctoral Consortium

Volksbank

09:00 – 17:30 **WS 2**
**REFSQ'03: Requirements Engineering:
Foundation for Software Quality**

Seehotel Europa

WS 3
**EMMSAD'03: Evaluation of Modeling Methods
in Systems Analysis and Design**

Kärnten Werbung

WS 4
**UMICS'03: Ubiquitous Mobile Information
and Collaboration Systems**

Hubertushof

WS 5
**WES'03: Web Services, e-Business
and the Semantic Web**

Seehotel Europa

WS 7
**REBPS'03: Requirements Engineering for
Business Process Support**

Engstler

WS 8
DSE'03: Decision Systems Engineering

**Casino Hotel
Mösslacher**

TUT 2
**Developing Maintainable Systems –
Roundtrip Engineering with Metrics**

Gemeindeamt

John Mylopoulos Symposium

Hotel Alte Post

10:30 – 11:00 **Coffee break**

12:30 – 14:00 **Lunch**

15:30 – 16:00 **Coffee break**

Wednesday 18 June

Conference Day 1

08:00 – 16:00	Registration	Casineum
09:00 – 09:30	Opening of CAiSE'03 Johann Eder	Casineum
09:30 – 10:30	Session 1: Key note presentation Chair: Johann Eder	Casineum
	M. Rusinkiewicz (USA) "Towards Self-Managing Large Scale Information Systems"	
10:30 – 11:00	Coffee break	
11:00 – 12:30	Session 2 a: XML Chair: Andreas Opdahl	Casineum
	M. W. Vincent, J. Liu (Australia) "Multivalued Dependencies and a 4NF for XML"	
	G. Wang, M. Liu (Canada) "Query Processing and Optimization for Regular Path Expressions"	
	B. Benatallah, M. Mahdavi, P. Nguyen, Q. Z. Sheng, L. Port, B. McIver (Australia) "An Adaptive Document Version Management Scheme"	
11:00 – 12:30	Session 2 b: Methods & Models for Information Systems – I Chair: Pericles Loucopoulos	Kärnten Werbung
	H. Mouratidis, P. Giorgini, G. Manson (England) "Integrating Security and Systems Engineering: Towards the Modelling of Secure Information Systems"	
	A. Cali, D. Calvanese, G. De Giacomo, M. Lenzerini, P. Naggari, F. Vernacotola (Italy) "IBIS: Semantic Data Integration at Work"	
	J. Ralyte, R. Deneckere, C. Rolland (Switzerland, France) "Towards a Generic Model for the Situational Method Engineering"	
12:30 – 14:00	Lunch	
14:00 – 15:30	Session 3 a: UML Chair: Antoni Olivé	Casineum
	J. F. B. Castro, C. T. L. L. Silva, J. Mylopoulos (Brazil, Canada) "Modeling Organizational Architectural Styles In UML"	
	M. E. Manso, M. Genero, M. Piattini (Spain) "Non-Redundant Metrics for UML Class Diagrams Structural Complexity"	

Wednesday 18 June

Conference Day 1

	M. Albert, V. Pelechano, J. Fons, M. Ruiz, O. Pastor (Spain) "Implementing UML Association, Aggregation and Composition. A Particular Interpretation based on a Multidimensional Framework"	
14:00 – 15:30	Session 3 b: Methods & Models for Information Systems – II Chair: Klaus Pohl	Kärnten Werbung
	M. Nikolaidou, D. Anagnostopoulos (Greece) "Exploring Web-based Information System Design: A Discrete-Stage Methodology and the Corresponding Model"	
	S. M. Embury, J. Shao (United Kingdom) "Analysing the Impact of Adding New Integrity Constraints to Information Systems"	
	J. Kovse, W. Mahnke (Germany) "Introducing Custom Language Extensions to SQL: 1999"	
15:30 – 16:00	Coffee Break	
16:00 – 17:30	Session 4 a: Panel Chair: Gerti Kappel	Casineum
	"Web Engineering – Software Crisis 3 rd ed.?" Sigi Reich (Salzburg Research) Martin Gaedke (Universität Karlsruhe) Jian Yang (Tilburg University) Gerti Kappel (Technische Universität Wien) Peter Frankhauser (GMD-IPSI, Darmstadt) Michael Brodie (Verizon, USA)	
16:00 – 17:00	Session 4 b: CAiSE Forum I Chair: Tatjana Welzer	Gemeindesaal
	Catering: Organic Smörgåsbord provided by local farmers	
17:30 – 18:30	CAiSE Forum II Chair: Tatjana Welzer	Gemeindesaal
19:00 – 20:00	CAiSE Forum III Chair: Tatjana Welzer	Gemeindesaal
20:30 – 23:00	Boat trip	
	Departure 20:30 from "Bootsanlegestelle" (pier) with MS Klagenfurt Music by Veldener Doppelsextett Snacks and drinks will be served on-board	

Thursday 19 June

Conference day 2

- 08:00 – 16:00 **Registration** **Casineum**
- 09:00 – 10:30 **Session 5: Invited talk**
Chair: Michele Missikoff **Casineum**
- K. Sycara (USA)*
 "Autonomous Semantic Web Services"
- 10:30 – 11:00 **Coffee Break**
- 11:00 – 12:30 **Session 6 a: Internet Business & Social Modeling**
Chair: Dimitris Karagiannis **Casineum**
- R.J. Wieringa, H.M. Blanken, M.M. Fokkinga, P.W.P.J. Grefen (The Netherlands)*
 "Aligning Application Architecture to the Business Context"
- D. K.W. Chiu, S.C. Cheung, H.F. Leung (China)*
 "A Three-tier View-based Methodology for Adapting Human-Agent Collaborative Systems towards a Connected Society"
- G. Gans, M. Jarke, G. Lakemeyer, D. Schmitz (Germany)*
 "Deliberation in a Modeling and Simulation Environment for Inter-Org. Networks"
- 11:00 – 12:30 **Session 6 b: Peer2Peer**
Chair: Michael Leonard **Kärnten Werbung**
- W. Nejdl, M. Wolpers, W. Sibersiki, A. Löser (Germany)*
 "Information Integration in a Schema-Based Peer-To-Peer Network"
- L. Galanis, Y. Wang, S. R. Jeffery, D. J. DeWitt (USA)*
 "Processing Queries in a Large Peer-to-Peer System"
- K. Haller, H. Schuldt, H.J. Schek (Switzerland)*
 "Consistent Process Execution in Peer-to-Peer Information Systems"
- 12:30 – 14:00 **Lunch**
- 14:00 – 15:30 **Session 7 a: Ontology-based Methods**
Chair: Bernhard Thalheim **Casineum**
- D. Damm, F. Hakimpour, A. Geppert (Switzerland)*
 "Translating and Searching Service Descriptions Using Ontologies"
- N. Stojanovic (Germany)*
 "On the Query Refinement in the Ontology-based Searching for Information"

Thursday 19 June

Conference day 2

- C. Tsinaraki, E. Fatourou, S. Christodoulakis (Greece)*
 "An Ontology-Driven Framework for the Management of Semantic Metadata describing Audiovisual Information"
- 14:00 – 15:30 **Session 7 b: Advanced Design of Information Systems**
Chair: Arne Solvberg **Kärnten Werbung**
- R. Vdovjak, P. Barna, G.J. Houben (The Netherlands)*
 "Designing a Federated Multimedia Information System on the Semantic Web"
- M. Saeki (Japan)*
 "Embedding Metrics into Information Systems Development Methods: An Application of Method Engineering Technique"
- J. Gordijn, R. Wieringa (The Netherlands)*
 "A Value-Oriented Approach to E-Business Process Design"
- 15:30 – 16:00 **Coffee Break**
- 16:00 – 17:30 **Session 8 a: Knowledge Management**
Chair: Maurizio Panti **Casineum**
- A. Olivé (Spain)*
 "Derivation Rules in Object-Oriented Conceptual Modeling Languages"
- M. C. Norrie, B. Signer (Switzerland)*
 "Issues of Information Semantics and Granularity in Cross-Media Publishing"
- S. W. Kim, C.W. Chung (Korea)*
 "Ranking Web Documents with Dynamic Evaluation by Expert Groups"
- 16:00 – 17:30 **Session 8 b: Web Services**
Chair: Matthias Jarke **Kärnten Werbung**
- B. Benatallah, F. Casati, F. Toumani, R. Hamadi (Australia)*
 "Conceptual Modeling of Web Service Conversations"
- V. Tasic, B. Pagurek, K. Patel, B. Esfandiari, W. Ma (Canada)*
 "Management Applications of the Web Service Offerings Language (WSOL)"
- M.P. Papazoglou, J. Yang, B. J. Kraemer (The Netherlands)*
 "Leveraging Web-Services and Peer-to-Peer Networks"
- 19:00 – 23:00 **CAISE Banquet**

at Schloss Moosburg, Busses leave in front of the Casineum at 19:00

Friday 20 June

Conference day 3

- 08:00 – 12:00 **Registration** **Casineum**
- 09:00 – 10:30 **Session 9: Invited talk**
Chair: Janis Bubenko **Casineum**
- S. Abiteboul (France)**
"Managing an XML warehouse in a P2P Context"
- 10:30 – 11:00 **Coffee Break**
- 11:00 – 12:30 **Session 9 a: Requirements Engineering**
Chair: Colette Rolland **Casineum**
- P. Donzelli, P. Bresciani (Italy)**
"Goal Oriented Requirement Engineering – a Case Study in E-Government"
- M. Kolp, P. Giorgini, J. Mylopoulos (Belgium, Canada)**
"Organizational Patterns for Early Requirements Analysis"
- A. Moreira, J. L. Fiadeiro, L. Andrade (Portugal)**
"Evolving Requirements through Coordination Contracts"
- 11:00 – 12:30 **Session 9 b: Data Warehouse**
Chair: Moira Norrie **Kärnten Werbung**
- E. Saltarelli, S. Rizzi (Italy)**
"View Materialization vs. Indexing: Balancing Space Constraints in Data Warehouse Design"
- P. Vassiliadis, A. Simitsis, P. Georgantas, M. Terovitis (Greece)**
"A Framework for the Design of ETL Scenarios"
- F. Jouanot, N. Cullot, K. Yétongnon (Switzerland)**
"Context Comparison for Object Fusion"
- 12:30 – 14:00 **Lunch**
- 14:00 – 15:30 **Session 10 a: Panel**
Chair: Martin Hitz **Casineum**
- "Mobile Learning - Hype or Awarding Challenge?"
Andreas Auinger (Universität Linz)
Giorgio Da Bormida (GIUNTI Interactive Labs, Sestri Levante)
Gabi Kotsis (Austrian Computer Society)
Martin Hitz (Universität Klagenfurt)
Peter Mirski (MCI Innsbruck)
Michele Missikoff (LEKS Roma)
Christina Schachtner (Universität Klagenfurt)

Friday 20 June

Conference day 3

- 14:00 – 15:30 **Session 10 b: Electronic Agreements & Workflow**
Chair: Mike Papazoglou **Kärnten Werbung**
- V. De Antonellis, M. Melchiori, B. Pernici, P. Plebani (Italy)**
"A Methodology for E-Service Substitutability in a Virtual District Environment"
- W.J. van den Heuvel, H. Weigand (The Netherlands)**
"Coordinating Web-Service Enabled Business Transactions with Contracts"
- L. Xu, M. A. Jeusfeld (The Netherlands)**
"Pro-active Monitoring of Electronic Contracts"
- 15:30 – 16:00 **Coffee Break**
- 16:00 – 17:30 **Session 11a: Metrics & Method Engineering**
Chair: Sjaak Brinkkemper **Casineum**
- C. Rolland, C. Salinesi (France)**
"Fitting Business Models to System Functionality – Exploring the Fitness Relationship"
- X. Baril, Z. Bellahsène (France)**
"Selection of Materialized Views: a Cost based Approach"
- H. Zhang, S. Jarzabek, B. Yang (Singapore)**
"Quality Prediction and Assessment for Product Lines"
- 16:00 – 17:30 **Session 11 b: Agent Technologies and Advanced Environments**
Chair: Paolo Giorgini **Kärnten Werbung**
- S. Spiekermann, I. Dickinson, O. Günther, D. Reynolds (Germany)**
"User Agents in E-Commerce Environments: Industry vs. Consumer Perspectives on Data Exchange"
- M. Weiss (Canada)**
"Pattern-Driven Design of Agent Systems: Approach and Case Study"
- A. Brayner, J. A. M. Filho (Brazil)**
"Sharing Mobile Databases in Dynamically Configurable Environments"
- 17:30 – 17.45 **Closing Session**
Johann Eder **Casineum**

