



14th IEEE International Requirements Engineering Conference

Minneapolis/St. Paul, Minnesota, USA
September 11-15, 2006

<http://www.re06.org>




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Conference Program

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Welcome to Minneapolis

We cordially welcome you to RE'06, the 14th IEEE International Requirements Engineering Conference. We gather this year from September 11-15, in the vibrant city of Minneapolis in Minnesota, the "Land of 10,000 Lakes".

The conference theme, "Understanding the Stakeholders' Desires and Needs" reflects the fact that, at its core, requirements engineering is about satisfying the stakeholders. It also illustrates the growing importance of requirements engineering in software and systems development: we cannot build useful systems if we do not know the stakeholders' desires and needs.

The conference offers a strong technical program with broad appeal to researchers, industrial practitioners, students, and educators in the field of requirements engineering.

The *research paper* sessions give participants the opportunity to hear and discuss innovative results and evaluations in requirements engineering research. In three *panels*, experts discuss current RE problems as well as look into the future of requirements engineering. A session with four *vision papers* explores what is ahead in RE. The *poster* session previews innovative requirements engineering research, and *demonstrations of research tools* highlight new developments and offerings.

RE'06 also features a full *practitioner track* to address key issues faced by requirements engineering professionals in industry. The practitioner track contains refereed industrial practice and experience papers, invited practice and experience talks, two mini-tutorials, and a meet-the-expert session.

As a highlight for all participants, we are pleased to have three excellent *keynote speakers*. Mary Beth Rosson from Pennsylvania State University (USA) looks at requirements from an end-user perspective. Dorothy Graham, a founder and principal of Grove Consulting (UK), describes the relationship between requirements and testing from a practitioner's viewpoint. Lastly, John Mylopoulos, University of Toronto (Canada) and Trento (Italy), a researcher deeply involved in shaping the field of requirements engineering, will talk about the future of goal-oriented requirements engineering.

Two days of *tutorials* and *workshops*, plus a *doctoral symposium*, precede the main conference. Tutorials provide a popular and efficient way to learn about new topics in RE. The associated workshops, three of which are on-going from previous RE conferences, serve as forums for presenting current work and discussing shared interests. The RE'06 Doctoral Symposium gives doctoral students an opportunity to present their research and receive feedback from international experts in an open and constructive atmosphere.

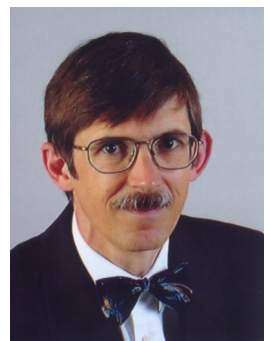
RE'06 has been advertised as the Premier Requirements Engineering Conference. This is not just a slogan; it is our mission and commitment: all members of the RE'06 Organizing Committee, the Program Board and the Program Committee have worked hard and done their best to make RE'06 a truly premier event.

A total of 179 papers were submitted by authors from 28 countries, spanning every continent. Each paper was reviewed by multiple members of the Program Committee. Their reviews were then used by the Program Board to make the final selections. In all, 21 full research papers, seven short papers, four vision papers and seven industrial practice and experience papers were accepted to appear in the proceedings. The high quality of these authors' work is a key contribution to the overall quality of the conference.

We thank all members of the conference committee for their dedication and effort and our corporate donors for their generous support. And we hope that you, the participants of RE'06, will enjoy and find useful what we have prepared for you. Welcome to RE'06!



General Chair
Robyn Lutz
Iowa State University
and Jet Propulsion Lab,
USA



Program Chair
Martin Glinz
Universität Zürich,
Switzerland

Venue

RE'06 will be held in the Millennium Hotel in Minneapolis, Minnesota, USA. The 'Twin Cities' Minneapolis and St. Paul lie on the Mississippi, about 530 km / 330 miles northwest of Chicago. They are a popular destination for recreational travel. St. Paul is the capital of Minnesota.

How to Get There

Minneapolis/St. Paul International Airport is served by all major American airlines. Downtown Minneapolis is approximately 16 miles from the airport, with taxi fares averaging \$28.00-\$36.00.

Alternatively there is a light rail service from the airport to downtown Minneapolis which costs \$2.00. At the airport, take the Hiawatha line to Downtown Minneapolis. Exit at Nicollet Mall Station. Transfer to bus station at Nicollet Mall/5th Street. Take bus line 17 or 18 southbound. Exit at Nicollet Ave/Grant street. Walk back 1/2 block on Nicollet Ave. The hotel is to your right.

See <http://www.ifi.unizh.ch/req/events/RE06/Venue/Venue.html> for maps and driving directions.

Registration Opening Hours

Sunday, September 10, 2006: 17:00-18:30, Lower Level

Monday, September 11 to Thursday, September 14, 2006: 8:00-18:00, North Forum Ballroom (Lobby Level)

Friday, September 15: 8:00-14:00, North Forum Ballroom (Lobby Level)

Where to Go

See <http://www.ifi.unizh.ch/req/events/RE06/Venue/Venue.html> for restaurants, shopping, culture, recreation, sports, etc.

Social Events

Welcome Reception

Tuesday, September 12, 2006 18:30

The reception will take place in the 'Dome' on the 14 floor of the Millennium Hotel, which offers a panoramic view of the Minneapolis skyline.

At this reception, we will both welcome the participants to the main conference and celebrate the end of the pre-conference tutorials and workshops.

Conference Banquet

Thursday, September 14, 2006 18:30

Our banquet will be held at Solera (900 Hennepin Ave., Minneapolis, MN 55403). Named one of the "World's Top Ten New Restaurants" by Food and Wine Magazine (2003), Solera is an exciting, urban concept laced with the rustic romanticism of Mediterranean cuisine. The restaurant features a variety of hot and cold tapas (small plates) as well as a selection of Spanish-inspired entrees. The Solera is in walking distance from the Millennium Hotel. Our student volunteers will guide you.

Program-at-a-Glance

Monday, September 11, 2006

Time	Tutorials		Workshops	
9:00-12:30	H1	H3	W1: AuRE'06	W2: REV'06
				W3: CERE'06
				W4: Cancelled
14:00-17:30	H2	H4	W1 (continued)	W2 (continued)
				W3 (continued)

Tuesday, September 12, 2006

Time	Tutorials		Workshops		Doctoral Symposium
9:00-12:30	F1	H5	W5: MeRE'06	W6: IWSPM'06	Doctoral Symposium
				W7: SOCCER'06	
14:00-17:30	F1 (continued)	H6	W5 (continued)	W6 (continued)	W7 (continued)
					DocSym (continued)
18:30			Welcome Reception		

Wednesday, September 13, 2006

Time	Research Track A		Research Track B		Practitioner Track
8:45-10:15			Conference Opening – Keynote 1: Mary Beth Rosson		
			Break		
10:45-12:30	Research Papers 1: Languages, Methods and Tools			Mini-Tutorial 1: Alan Davis	
			Lunch		
14:00-15:30	Research Papers 2: Non-Functional Requirements		Panel 1: Product Management		Practice Papers 1: Application of RE
			Break		
16:00-17:30	Posters		Research Demonstrations		Practice Papers 2: Tailoring and Improvement

Thursday, September 14, 2006

Time	Research Track A		Research Track B		Practitioner Track	Birds-of-a-Feather
8:45-10:15			Awards – Keynote 2: Dorothy Graham			
			Break			
10:45-12:30	Research Papers 3: Analysis		Research Papers 4: Use Cases and Interaction		Invited Experience Talks	
			Lunch			
14:00-15:30	Research Papers 5: Goals		Panel 2: Traceability		Meet the Expert: Ivy Hooks	
			Break			
16:00-17:30	Research Papers 6: Features		Research Papers 7: Application and Alignment		Practice Papers 3: Process Issues	
			Conference Banquet			BOF 1: Requirements Nomenclature
18:30						

Friday, September 15, 2006

Time	Research Track A		Research Track B		Practitioner Track
8:45-10:15	Research Papers 8: Elicitation		Panel 3: The Future of RE		Invited Practice Talks
			Break		
10:45-12:30	Research Papers 9: Specific Domains and Areas		Vision Papers		Mini-Tutorial 2: Ellen Gottesdiener
			Lunch		
14:00-16:00	Keynote 3: John Mylopoulos – Conference Closing				

Conference Committee

Organizing Committee

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Monday Program

September 11, 2006

Tutorials		Workshops		
9:00-12:30	<p>Tutorial H1: Ten Simple Steps to Better Requirements <i>Ian Alexander (Independent Consultant, UK)</i></p> <p>Tutorial H3: Building a Platform-Independent Model with MDA <i>Christopher Armstrong (Armstrong Process Group, USA)</i></p>	<p>Workshop W1: International Automotive Requirements Engineering Workshop (AuRE'06)</p>	<p>Workshop W2: First International Workshop on Requirements Engineering Visualization (REV'06)</p>	<p>Workshop W3: Fourth International Workshop on Comparative Evaluation in Requirements Engineering (CERE'06)</p> <p>Workshop W4 Cancelled</p>
Lunch				
14:00-17:30	<p>Tutorial H2: Change Agency for Requirements Engineers <i>Erik Simmons (Intel, USA)</i></p> <p>Tutorial H4: Successful Product Line Development with Strong Requirements Engineering and Management <i>Andreas Birk (sd&m, Germany), Gerald Heller (Hewlett-Packard, Germany)</i></p>	<p>Workshop W1 (continued)</p>	<p>Workshop W2 (continued)</p>	<p>Workshop W3 (continued)</p>

Tuesday Program

September 12, 2006

Tutorials		Workshops			Doctoral Symposium
9:00-12:30	<p>Tutorial F1: Context: Its Discovery, its Forms, and its Management in Non-Functional Requirements <i>Don Gause (Binghamton University, USA)</i></p> <p>Tutorial H5: Security Requirements Engineering Methodologies <i>Fabio Massacci, John Mylopoulos, Nicola Zannone (Università di Trento, Italy)</i></p>	<p>Workshop W5: First International Workshop on Multimedia Requirements Engineering – Beyond Mere Descriptions (MeRE'06)</p>	<p>Workshop W6: International Workshop on Software Product Management (IWSPM'06)</p>	<p>Workshop W7: Service-Oriented Computing: Consequences for Engineering Requirements (SOCCER'06)</p>	<p>Doctoral Symposium Doctoral Symposium</p>
Lunch					
14:00-17:30	<p>Tutorial F1 (continued)</p> <p>Tutorial H6: Aspect-Oriented Requirements Engineering <i>Awais Rashid, Ruzanna Chitchyan (Lancaster University, UK), Ana Moreira, João Araújo (Universidade Nova de Lisboa, Portugal)</i></p>	<p>Workshop W5 (continued)</p>	<p>Workshop W6 (continued)</p>	<p>Workshop W7 (continued)</p>	<p>Doctoral Symposium (continued)</p>
Welcome Reception					

Time	Research Track A (Avenues 4 & 5)	Research Track B (South Forum)	Practitioner Track (Center Forum)
8:45-10:15		<p>Conference Opening <i>Chair: Mats Heimdahl (University of Minnesota, USA)</i></p> <p>Keynote 1 <i>Chair: Martin Glinz (Universität Zürich, Switzerland)</i> End Users Who Meet Their Own Requirements <i>Mary Beth Rosson (Pennsylvania State University, USA)</i></p>	
		Break	
10:45-12:30	<p>Research Papers 1: Languages, Methods and Tools <i>Chair: Tetsuo Tamai (University of Tokyo, Japan)</i></p> <p>A Case Study in Systematic Improvement of Language for Requirements <i>Kimberly S. Wasson (University of Virginia, USA)</i></p> <p>Generating Hierarchical State Machines From Use Case Charts <i>Jon Whittle, Praveen K. Jayaraman (George Mason University, USA)</i></p> <p>Making Mobile Requirements Engineering Tools Usable and Useful <i>Neil Maiden (City University London, UK), Norbert Seyff, Paul Grünbacher (J. Kepler Universität Linz, Austria), Omo Otojare (City University London, UK), Karl Mitteregger (J. Kepler Universität Linz, Austria)</i></p>	<p>Mini-Tutorial 1 <i>Chair: Oscar Pastor (Universitat Politècnica de València, Spain)</i></p> <p>Just Enough Requirements Management <i>Alan Davis (University of Colorado at Colorado Springs, USA)</i></p>	
		Lunch	
14:00-15:30	<p>Research Papers 2: Non-Functional Requirements <i>Chair: Kevin Ryan (Lero – University of Limerick, Ireland)</i></p> <p>The Detection and Classification of Non-Functional Requirements with Application to Early Aspects <i>Jane Cleland-Huang, Raffaela Settini, Xuchang Zou, Peter Solc (DePaul University, USA)</i></p> <p>Emotional Requirements in Video Games (Short Paper) <i>David Callele, Eric Neufeld, Kevin Schneider (University of Saskatchewan, Canada)</i></p> <p>Towards Regulatory Compliance: Extracting Rights and Obligations to Align Requirements with Regulations <i>Travis D. Breaux, Matthew W. Vail, Annie I. Antón (North Carolina State University, USA)</i></p>	<p>Panel 1: Product Management <i>Moderator: Christof Ebert (Alcatel, France)</i></p> <p>Have You Spoken to Your Product Manager Recently? How Requirements Engineering Influences Product Management and Vice Versa. <i>Panelists: Sjaak Brinkkemper (Universiteit Utrecht, The Netherlands), Bob Brown (Intel, USA), Steven Haines (Sequent Learning Networks, USA), John Milburn (Pragmatic Marketing, USA), Hugo Geuens (Siemens, USA/Belgium), Günther Ruhe (University of Calgary, Canada)</i></p>	<p>Practice Papers 1: Application of RE <i>Chair: Olly Gotel (Pace University, USA)</i></p> <p>Experiences of Requirements Engineering for Two Consecutive Versions of a Product at VLSC <i>Joel So, Daniel Berry (University of Waterloo, Canada)</i></p> <p>Controlling the HMS Program through Managing Requirements <i>Debra Aubrey (General Dynamics C4 Systems, USA)</i></p> <p>Optimal Solutions for Hospital Websites <i>Karsten Wendland (Technische Universität Darmstadt, Germany), Claudia Planz, Peter Oldorf (Kliniken des Main-Taunus-Kreises, Germany)</i></p>

Time	Research Track A (Avenues 4 & 5)	Research Track B (South Forum)	Practitioner Track (Center Forum)
16:00-17:30	<p>Posters <i>Chair: Alain Wegmann (EPF Lausanne, Switzerland)</i> Using Aspects to Simplify i* Models <i>F. Alencar (Universidade Federal de Pernambuco, Brazil; Universidade Nova de Lisboa, Portugal), A. Moreira, J. Araújo (Univ. Nova de Lisboa, Portugal), J. Castro (Univ. Federal de Pernambuco, Brazil; IRST, Italy), C. Silva (Univ. Federal de Pernambuco, Brazil), J. Mylopoulos (Univ. of Toronto, Canada)</i> So, You Think You Are a Requirements Engineer? <i>B. Al-Ani, S.E. Sim (University of California Irvine, USA)</i> Deriving Architectures from Requirements <i>L. Bastos (Banco do Brasil, Brazil), J. Castro (Univ. Federal de Pernambuco, Brazil; IRST, Italy), J. Mylopoulos (Univ. of Toronto, Canada)</i> Towards an Integrated Approach for Aspectual Requirements <i>I. Brito, A. Moreira (Universidade Nova de Lisboa, Portugal)</i> Use Case-Based Modeling and Analysis of Fail-safe Fault-Tolerance <i>A. Ebmenasir, B. Cheng, S. Konrad (Michigan State University, USA)</i> Goal-Oriented Modeling of Requirements Engineering for Dynamically Adaptive Systems <i>H. Goldsby, B. Cheng (Michigan State University, USA)</i> Eliciting Non-Functional Requirements Interactions Using the Personal Construct Theory <i>B. González-Baixauli (Universidad de Valladolid, Brazil), J. Leite (PUC-Rio, Brazil), M. Laguna (Universidad de Valladolid, Brazil)</i> Integrating Goals and Problem Frames in Requirements Analysis <i>L. Liu (Tsinghua University, China), Z. Jin (Academy of Mathematics and System Sciences, China)</i> Requirements Engineering for Pervasive Systems: A Transformational Approach <i>J. Muñoz, P. Valderas, V. Pelechano, O. Pastor (Universitat Politècnica de València, Spain)</i> Exposing Tacit Knowledge via Pre-Requirements Tracing <i>A. Stone, P. Sawyer (Lancaster University, UK)</i> Improving the Modeling of Use Case Relationship <i>J. Tang, D. Liang (University of Minnesota, USA)</i></p>	<p>Research Demonstrations <i>Chair: Jeffrey Thompson (Boston Scientific, USA)</i> J-PRIM: A Java Tool for a Process Reengineering i* Methodology <i>Gemma Grau, Xavier Franch, Sebastián Ávila (Universitat Politècnica de Catalunya, Spain)</i> REDEPEND: Extending i* Modelling into Requirements Processes <i>James Lockerbie, Neil Maiden (City University, UK)</i> Poirot: A Distributed Tool Supporting Enterprise-Wide Automated Traceability <i>Jun Lin, Chan Chou Lin, Jane Cleland-Huang, Raffaella Settini, Joseph Amaya, Grace Bedford (DePaul University, USA), Brian Berenbach (Siemens Corporate Research Princeton, USA), Oussama Ben Khadra, Chuan Duan, Xuchang Zou (DePaul University, USA)</i> DesCOTS-SL: A Tool for the Selection of COTS Components <i>Carme Quer, Xavier Franch, Xavier Lopez-Pelegrín (Universitat Politècnica de Catalunya, Spain)</i></p>	<p>Practice Papers 2: Tailoring and Improvement <i>Chair: Barbara Paech (Universität Heidelberg, Germany)</i> Tailoring Traceability Information to Business Needs <i>Paul Arkley (University of Newcastle upon Tyne, UK), Tom Brookes (BAE Systems, UK), Steve Riddle (University of Newcastle upon Tyne, UK)</i> Good Practice and Improvement Model of Handling Capacity Requirements of Large Telecommunication Systems <i>Andreas Borg (Linköpings Universitet, Sweden), Mikael Patel (Ericsson, Sweden), Kristian Sandahl (Linköpings Universitet, Sweden)</i> A Requirements Guide For All (REGAL): An INCOSE Initiative (Invited Presentation) <i>Jeremy Dick (integrate Systems Engineering, UK)</i></p>
Break			
8:45-10:15	<p>Research Track A (Avenues 4 & 5)</p>	<p>Research Track B (South Forum)</p> <p style="text-align: center;">Awards Keynote 2</p>	<p>Practitioner Track (Center Forum)</p>
<p><i>Chair: Robyn Lutz (Iowa State University and Jet Propulsion Lab, USA)</i></p> <p><i>Chair: Robyn Lutz (Iowa State University and Jet Propulsion Lab, USA)</i></p>		<p>Birds-of-a-Feather (Satellite 6 and 7)</p>	

Thursday Program

September 14, 2006

Testing to Improve Requirements – Mission Impossible?
Dorothy Graham (Grove Consulting, UK)

Break

Research Papers 3: Analysis
Chair: Martin Feather (Jet Propulsion Lab, USA)
 Identifying Nocuous Ambiguities in Natural Language Requirements
Francis Chantree, Bashar Nuseibeh, Anne de Roeck, Alistair Willis (The Open University, UK)
 Interaction Analysis in Aspect-Oriented Models
Katharina Mehner (Technische Universität Berlin, Germany), Mattia Monga (Università degli Studi di Milano, Italy), Gabriele Taentzer (Technische Universität Berlin, Germany)
 On Goal-based Variability Acquisition and Analysis
Sotirios Liaskos, Alexei Lapouchinian, Yijun Yu, Eric Yu, John Mylopoulos (University of Toronto, Canada)

Research Papers 4: Use Cases and Interaction
Chair: Natalia Juristo (Universidad Politécnica de Madrid, Spain)
 An Empirical Quality Assessment of Automotive Use Cases
F. Törner (Volvo, Sweden), M. Ivarsson, F. Pettersson, P. Öhman (Chalmers Tekniska Högskola, Sweden)
 Matching Antipatterns to Improve the Quality of Use Case Models
Mohamed El-Attar, James Miller (University of Alberta, Canada)
 Software Cinema—Video-based Requirements Engineering
Oliver Creighton (Siemens, Germany), Martin Ott, Bernd Brügge (Technische Universität München, Germany)

Invited Experience Talks
Chair: Sol Greenspan (National Science Foundation, USA)
 Modeling Requirements
Anette Prindahl (ATP, Denmark)
 Putting Requirements Theory into Practice at Northrop Grumman
Ralph Young (Northrop Grumman, USA)
 Moving Towards Agile Practices – Requirements Management Tool Experiences at Hewlett-Packard
Gerald Heller (Hewlett-Packard, Germany)

Research Papers 5: Goals
Chair: Betty Cheng (Michigan State University, USA)
 Justifying Goal Models
Ivan J. Jureta, Stéphane Faulkner, Pierre-Yves Schobbens (FUNDP – University of Namur, Belgium)
 Managing Terminological Interference in Goal Models with Repertory Grid (Short Paper)
Nan Niu, Steve Easterbrook (University of Toronto, Canada)
 Understanding Business Strategies of Networked Value Constellations Using Goal- and Value Modelling
Jaap Gordijn (Vrije Universiteit Amsterdam, The Netherlands), Michaël Petit (FUNDP – University of Namur, Belgium), Roel Wieringa (Universiteit Twente, The Netherlands)

Panel 2: Traceability
Moderator: Jane Cleland-Huang (DePaul University, USA)
 Requirements Traceability – When and How Does it Deliver More than it Costs?
Panelists: Brian Berenbach, (Siemens Corporate Research, USA), Jeremy Dick (integrate systems engineering, UK), Olly Gotel (PACE University, USA), Tim Menzies (West Virginia University, USA), Kevin Ryan (LERO, Ireland)

Meet the Expert
Chair: Ian Alexander (Independent Consultant, UK)
 Requirements Engineering, an Oxymoron?
Ivy Hooks (Compliance Automation Inc., USA)

Lunch

10:45-12:30

14:00-15:30

Time	Research Track A (Avenues 4 & 5)	Research Track B (South Forum)	Practitioner Track (Center Forum)	Birds-of-a-Feather (Satellite 6 and 7)
16:00-17:30	<p>Research Papers 6: Features <i>Chair: Motoshi Saeki (Tokyo Institute of Technology, Japan)</i></p> <p>Feature Diagrams: A Survey and A Formal Semantics <i>Pierre-Yves Schobbens, Patrick Heymans, Jean-Christophe Trigaux (FUNDP – University of Namur, Belgium), Yves Bontemps (SMALS MvMeGOV, Belgium)</i></p> <p>Identification of Crosscutting Requirements Based on Feature Dependency Analysis (Short Paper) <i>Kun Chen, Haiyan Zhao, Wei Zhang, Hong Mei (Peking University, Beijing, China)</i></p> <p>Managing Highly Complex Product Families With Multi-Level Feature Trees <i>Mark-Oliver Reiser (Technische Universität Berlin, Germany), Matthias Weber (DaimlerChrysler, Germany)</i></p>	<p>Research Papers 7: Application and Alignment <i>Chair: Julio Leite (PUC-Rio, Brazil)</i></p> <p>Systematic Requirements-Driven Evaluation and Synthesis of Alternative Principle Solutions for Advanced Mechatronic Systems <i>Björn Axenath, Holger Giese, Florian Klein, Ursula Frank (Universität Paderborn, Germany)</i></p> <p>A Coordination Complexity Model to Support Requirements Engineering for Cross-Organizational ERP (Short Paper) <i>Maya Daneva, Roel Wieringa (Universiteit Twente, The Netherlands)</i></p> <p>Requirement Progression in Problem Frames Applied to a Proton Therapy System <i>Robert Seater, Daniel Jackson (MIT, USA)</i></p>	<p>Practice Papers 3: Process Issues <i>Chair: Nazim Madhavji (University of Western Ontario, Canada)</i></p> <p>Agile Requirements Engineering for a Social Insurance for Occupational Risks Organization: A Case Study <i>Mario Pichler (SCCH Software Competence Center Hagenberg, Austria), Hildegard Rumetschofer, FAW Software Engineering (Austria), Wilhelm Wahler (AUVA, Austria)</i></p> <p>Open Source Requirements Engineering <i>Barbara Paech, Bernd Reuschenbach (Universität Heidelberg, Germany)</i></p>	<p>Birds-of-a-Feather 1: Requirements Nomenclature <i>Moderators: Jane Cleland-Huang (DePaul University, USA), David Blaine (San Diego Software Studio, USA)</i></p> <p>The purpose of this session is to present the current terms of art and lay groundwork for establishing a sensible and workable nomenclature for Requirements Engineering.</p>
18:30	Conference Banquet			

Friday Program

September 15, 2006

Time	Research Track A (Avenues 4 & 5)	Research Track B (North Forum)	Practitioner Track (Center Forum)
8:45-10:15	<p>Research Papers 8: Elicitation <i>Chair: Holger Giese (Universität Paderborn, Germany)</i></p> <p>Systematic Review of the Effectiveness of Requirements Elicitation Techniques <i>Alan Davis, Ann Hickey (University of Colorado, Colorado Springs, USA), Oscar Dieste, Natalia Juristo, Ana M. Moreno (Universidad Politécnica de Madrid, Spain)</i></p> <p>Detecting Conflicts of Interest (Short Paper) <i>Paolo Giorgini, Fabio Massacci, John Mylopoulos, Nicola Zannone (Università di Trento, Italy)</i></p>	<p>Panel 3: The Future of RE <i>Moderator: Bashir Nuseibeh (The Open University, UK)</i></p> <p>Requirements Engineering Research in Some Future Worlds: An Exercise in Scenario Planning <i>Panelists: Ian Alexander (Independent Consultant, UK), Dan Berry (University of Waterloo, Canada), Don Gause (Binghamton University, USA), Colin Potts (Georgia Institute of Technology, USA)</i></p>	<p>Invited Practice Talks <i>Chair: Erik Simmons (Intel Corporation, USA)</i></p> <p>Requirements Engineering: An Industrial Perspective <i>Brian Berenbach (Siemens Corporate Research, USA)</i></p> <p>Proving the Shalls: Requirements, Proofs, and Model-Based Development <i>Steven P. Miller (Rockwell Collins, USA)</i></p>

	<p>Using Domain Ontology as Domain Knowledge for Requirements Elicitation <i>Haruhiko Kaiya (Shinsu University, Japan), Motoshi Saeki (Tokyo Institute of Technology, Japan)</i></p>		
<p>10:45-12:30</p>	<p>Research Papers 9: Specific Domains and Areas <i>Chair: Michael Goedicke (Universität Duisburg-Essen, Germany)</i></p> <p>Incorporating Goal Analysis in Database Design: A Case Study from Biological Data Management <i>Lei Jiang, Thodoros Topaloglou (University of Toronto, Canada), Alex Borgida (Rutgers University, USA), John Mylopoulos (University of Toronto, Canada)</i></p> <p>Towards a Reference Framework for Software Product Management (Short Paper) <i>Inge van de Weerd, Sjaak Brinckemper, Richard Nieuwenhuis, Johan Versendaal, Lex Bijlsma (Univ. Utrecht, The Netherlands)</i></p> <p>Managing Non-Technical Requirements in COTS Components Selection (Short Paper) <i>Juan P. Carvallo V. (ETAPATELECOM, Ecuador), Xavier Franch, Carme Quer (Universitat Politècnica de Catalunya, Spain)</i></p> <p>Systematic Development of Requirements Documentation for General Purpose Scientific Computing Software <i>Spencer Smith (McMaster University, Canada)</i></p>	<p>Break</p> <p>Vision Papers <i>Chair: Dan Berry (University of Waterloo, Canada)</i></p> <p>What is this Science called Requirements Engineering? <i>Hans Akkermans, Jaap Gordijn (Vrije Universiteit Amsterdam, The Netherlands)</i></p> <p>Fusing Quantitative Requirements Analysis with Model-based Systems Engineering <i>Steven Cornford, Martin Feather, Vance Heron, J. Steven Jenkins (Jet Propulsion Lab, USA)</i></p> <p>Re-Framing Requirements Engineering <i>Colin Potts (Georgia Institute of Technology, USA)</i></p> <p>Creativity and the Age-Old Resistance to Change Problem in RE <i>Gil Regev (EPF Lausanne, Switzerland), Donald Gause (Binghamton University, USA), Alain Wegmann (EPF Lausanne, Switzerland)</i></p>	<p>Mini-Tutorial 2 <i>Chair: Frank Houdek (DaimlerChrysler Research, Germany)</i></p> <p>Requirements by Collaboration: Facilitating Workshops to Define Stakeholder Needs <i>Ellen Gottesdiener (EBG Consulting, USA)</i></p>
<p>14:00-16:00</p>	<p>Lunch</p> <p>Keynote 3 <i>Chair: Alistair Sutcliffe (University of Manchester, UK)</i></p> <p>Goal-Oriented Requirements Engineering, Part II <i>John Mylopoulos (University of Toronto, Canada and Università di Trento, Italy)</i></p> <p>Conference Closing <i>Chairs: Robyn Lutz (Iowa State University and Jet Propulsion Lab, USA) and Martin Glinz (Universität Zürich, Switzerland)</i></p> <p>Farewell, Invitation to RE'07</p>		

Keynotes



Keynote 1

Wednesday, September 13, 9:00

End Users Who Meet Their Own Requirements

Mary Beth Rosson
Pennsylvania State University, USA

Over the past 25 years, user interface designers and usability engineers have studied and refined human-computer interaction techniques with the goal of improving people's productivity and experience. One result is an increasing number of tools designed to help end users build or customize software solutions for a variety of everyday problems – from email filters, to spreadsheet simulations, to interactive web applications.

How far can end users go in meeting their own software requirements? Given the right tools, people and organizations may be able to rapidly develop solutions to a huge number of context-specific computing requirements, eliminating the wait for IT professionals to analyze and engineer a solution. But is this a good thing? End-user programmers are not trained in software engineering or computing paradigms. They have little intrinsic motivation to test their constructions for even basic concerns like correctness or safety. In this talk I argue that the transformation of end users into software developers is well underway and discuss the prospects for maximizing the benefits to society while addressing the risks.

Mary Beth Rosson is Professor of Information Sciences and Technology (IST) at The Pennsylvania State University. She received a PhD in experimental psychology in 1982 from the University of Texas. Prior to joining Penn State's College of IST in 2003, she was a professor of computer science at Virginia Tech for 10 years, and a research staff member and manager at IBM's T. J. Watson Research Center for 11 years. Rosson was among the earliest researchers to study the psychological issues associated with the object-oriented paradigm, and spent many years developing and evaluating object-oriented tools and training for professional programmers. One of her abiding interests has been the interplay between the concerns of human-computer interaction and software engineering. Recently she has been studying the tools and practices of end-user developers in educational and general business contexts.

For many years, Rosson has been an active participant in both the software engineering and the human-computer interaction research communities. She served as the Conference Chair for OOPSLA 2000 and is currently Conference Chair for CHI 2007. She is author of Usability Engineering: Scenario-Based Development of Human-Computer Interaction (Morgan Kaufmann, 2002) as well as numerous articles, book chapters, and tutorials.



Keynote 2

Thursday, September 14, 9:00

Testing to Improve Requirements – Mission Impossible?

Dorothy Graham
Grove Consulting, UK

How is it possible that testing could help to make better requirements? If this sounds like "Mission Impossible" to you, you may be suffering under some myths or misconceptions about the relationship between requirements and testing. Requirements engineers, developers and testers all have a different "mindset" and this can result in misunderstandings about the relationship between them. Whether you use a traditional life cycle approach or a very iterative approach to development, both good requirements specifications and good testing practices are critical to success.

In this presentation we will outline the characteristics of a good relationship between requirements engineering and software testing. We will then look at a number of myths or misconceptions about this relationship, for example that testing comes after a system has been developed, that testers use requirements but not vice versa, that you can't test without requirements, that testers don't actually need requirements (a tester's misconception) and others.

We will conclude with some tips for how to achieve better requirements through a better relationship with testing. It's not mission impossible – it's mission critical. Good requirements engineering produces better tests, and good test analysis produces better requirements.

Dorothy Graham is the founder of Grove Consultants, which provides advice, training and inspiration in software testing, test automation and Inspection.

Dot is co-author of three books: "Software Inspection" (with Tom Gilb), "Software Test Automation" (with Mark Fewster) and "Software Testing Foundation (ISTQB)" (with Rex Black, Isabel Evans and Erik Van Veenendaal). Her article on requirements and testing was published in IEEE Software in 2002.

She was a founder member of the UK ISEB Software Testing Board, and is on the editorial board of the Better Software magazine. She is a recipient of the European Excellence Award in Software Testing.



Keynote 3

Friday, September 15, 14:00

Goal-Oriented Requirements Engineering, Part II

John Mylopoulos
University of Toronto, Canada and
Università di Trento, Italy

The last fifteen years have seen the rise of a new phase in software development which is concerned with the acquisition, modelling and analysis of stakeholder purposes ("goals") in order to derive functional and non-functional requirements. The history of ideas and research results for this new phase was reviewed in a RE'04 keynote presentation by Axel van Lamsweerde. We revisit the topic and sketch on-going research on a number of fronts. Specifically, we discuss an agent-oriented software development methodology – called Tropos – that is founded on the concepts of goal, actor as well as inter-actor dependencies. We also show how goal models that characterize a space of possible solutions for meeting stakeholder goals can be used as a basis for designing high variability software. In addition, we report on early work to extend database design techniques to support the generation of a database conceptual schema from stakeholder goals. The research reported is the result of collaborations with colleagues at the Universities of Toronto and Trento.

John Mylopoulos earned a PhD degree from Princeton 1970, the year he joined the faculty of the University of Toronto. His research interests include requirements engineering, conceptual modeling, data semantics and knowledge management. Mylopoulos is a co-recipient of the best-paper award of the 1994 International Conference on Software Engineering and an elected fellow of the American Association for AI (AAAI). He is currently serving as co-editor of the Requirements Engineering Journal and served as program chair of the International IEEE Symposium on Requirements Engineering (1997).

Mini-Tutorials / Meet the Expert

During the conference, two mini-tutorials and a "meet-the-expert" session will be held in parallel to the paper sessions. These events are included in the conference registration. No extra registration is required.

Mini-Tutorial 1

Wednesday, September 13, 10:45 Center & South Forum

Just Enough Requirements Management

Al Davis (University of Colorado at Colorado Springs, USA)

After 25 years of consulting, researching, and training in the area of requirements management, I have finally come to understand that requirements management needs to be made simpler, not more complex. And in today's competitive world we need to find ways to accelerate system development dramatically; modern requirements management must thus reduce, not extend, the effort.

In today's practice, some companies have tended toward over-methodization, while others have tended toward under-methodization. The result is that requirements are either over-analyzed and over-specified, or are totally ignored. This common-sense tutorial addresses the "right" level at which requirements should be addressed, with emphasis on recognizing that the "right" level is different for every project.

The talk will cover all three major areas of requirements management: elicitation, triage, and specification. Each will be described, its goals will be made clear, common practices will be described, and recommendations for doing it in a "just enough" manner will be explored. Of course, what is "just enough" for an Atari game vs. a nuclear reactor control system is quite different, so the tutorial will also discuss the factors that would cause you to want to alter the "just enough" prescription for your own needs.

Mini-Tutorial 2

Friday, September 15, 10:45 Center Forum

Requirements by Collaboration: Facilitating Workshops to Define Stakeholder Needs

Ellen Gottesdiener (EBG Consulting, USA)

Well-designed and well-facilitated requirements workshops are one of the best ways to overcome the myriad of problems that arise from inadequate stakeholder involvement and ambiguous requirements. This experience-based tutorial will share a set of effective, time-tested practices for planning, designing, and facilitating requirements workshops.

Are your architects, developers, and testers working overtime in the final phases of coding and testing to meet software requirements they should have known about weeks or months ago? Are you continually going back to stakeholders to revise and clarify

their needs, resulting in confusion and rework? There is a better way – requirements workshops.

Requirements workshops are a proven good practice we have known about for decades. They are regaining popularity because of the growing interest in agile software development, which emphasizes human interaction and customer collaboration. Like Joint Application Design (JAD), these workshops are not traditional meetings or informal one-on-one discussions. Instead, they are focused, highly productive events attended by carefully selected stakeholders and content experts and led by a neutral facilitator. Well-run workshops promote trust, mutual understanding, and strong communications among project stakeholders. They produce deliverables that structure and guide development.

In this tutorial, you'll learn how workshops differ from meetings, and you'll study a reusable structure for designing workshops. You'll get tips and good practices gleaned from numerous successful industry workshops, and you'll discover the importance of selecting the right analysis models for your problem domain.

Familiarity with basic facilitation skills and practices as well as with a variety of requirements analysis models (e.g., use cases, stories, scenarios, business rules, actors, state diagrams, data models, etc.) is desirable but not required.

Meet the Expert

Thursday, September 14, 14:00 Center Forum

Requirement Engineering, an Oxymoron?

Ivy Hooks (Compliance Automation, Inc., USA)

Requirement Engineering has been used to describe the work associated with eliciting and writing requirements for many years. It is a subset of the work done in System Engineering. Maybe it is the wrong term. What do we really do with science and math in the process? Are people expecting some software package to do the job and eliminate all the hard work? Maybe we are focused on the wrong thing because of the name we have given the work.

Practice and Experience Talks

Practice talk 1

Friday, September 15, 8:45 Center Forum

Requirements Engineering: An Industrial Perspective

Brian Berenbach (Siemens Corporate Research, USA)

This talk describes experiences and lessons learned while defining product requirements for small and large companies over a thirty-year period. From 1969 to the present the author has assisted or led teams in the definition of requirements for a wide variety of products and systems, including music information, produce de-

livery, power and process control, baggage handling, mail sorting, insurance, medical device and information, communications, taxation and even race horse breeding.

Often, the success or failure of the projects encountered depended on factors that were not immediately apparent to the project teams involved. At times team members would take the correct steps without realizing the consequences of a misstep. In other cases minor missteps might lead to catastrophe.

Finally, the talk presents a rationale for the perceived precipitous drop in software project completion rates since the 1960s and 1970s, and offer suggestions for better preparing computer science students to meet the challenges of 21st century software development.

Practice talk 2

Friday, September 15, 9:00 Center Forum

Proving the Shalls: Requirements, Proofs, and Model-Based Development

Steven P. Miller (Rockwell Collins Inc., USA)

Informal requirements stated in a natural language often suffer from ambiguity, inconsistency, and incompleteness. For these reasons, the trend over the last decade has been towards the development of alternate approaches for specifying requirements such as use cases and requirement modeling languages. However, the growing popularity of model-based development and the increasing power of formal verification tools make yet another approach possible. In this approach, informal shall statements are captured as a first step in requirements elicitation. Next, an executable model of the system is constructed that is believed to implement these requirements. Simulation of this model is used to obtain early validation of the requirements with the customer and among the developers. The informal shall statements are then rewritten as formal properties over the model and shown to hold on the model. When possible, this is done through mathematical proof using model-checking or theorem proving. When formal proof is not possible, testing of the properties against the model is used. Finally, source code is automatically generated from the model. For safety or security systems, test cases are also automatically generated from the model and used to check that the object-code executing on the target platform correctly implements the model.

This presentation describes how this capability was developed at Rockwell Collins Inc under NASA Langley's Aviation Safety Program and how it has been applied in the development of avionics systems.

Experience talk 1

Thursday, September 14, 10:45 Center Forum

Modeling Requirements

Anette Prindahl (ATP, Denmark)

Hear about how ATP (Arbejdsmarkedets Tillægspension) do the Business Modeling, how we decide what is going to be handled by an IT-system, how we specify the System Use Case representing

that. On the information side, how we do Information Concept modeling with the business, how we specify the Services and service operations to fit a SOA Architecture. How we integrate functionality and information in the Description of the Use Cases, where we describe what the Actors do, what the system does, and which Service operations make it happen. Hear about the benefits and challenges of using a modeling tool to integrate and keep track of all the models.

Experience talk 2

Thursday, September 14, 11:20 Center Forum

Putting Requirements Theory into Practice at Northrop Grumman

Ralph Young (Northrop Grumman, USA)

Dr. Young will describe how, as “process owner” for the Requirements Process at Northrop Grumman Information Technology Defense Group, he has advocated for the practices he recommends in his most recent book, *Project Requirements: A Guide to Best Practices (Management Concepts, 2006)*. Dr. Young is frequently asked to provide “Initial Requirements Briefings” and “Requirements Workshops” for new projects and for external customers. The content of these briefings and the approach for the workshops will be described. The requirements process used in his business unit will be discussed. The Requirements (RE) Process webpage made available within the business unit that contains links to extensive materials (policies, processes, startup, tools, training, proposals, resources, support) will be described. Insights concerning the Conference theme, *Understanding the Stakeholders’ Desires and Needs*, will be offered. A set of “key requirements success factors” and “suggested remedies for typical requirements-related project startup issues” will be discussed. Recommendations for establishing an environment of continuous improvement will be provided. The concept of “meeting minimum requirements” will be advocated.

Experience talk 3

Thursday, September 14, 11:55 Center Forum

Requirements Management Tool Experiences at Hewlett-Packard

Gerald Heller (Hewlett-Packard, Germany)

In this talk you will hear how HP approaches the move from traditional requirements management to the agile way. Mr. Heller will describe how HP moves gradually into the new agile development paradigm for the OpenView product family.

The software product line OpenView represents Hewlett-Packard's (HP) largest software only business. Originally it was created out of a set of independent software products. These products evolved over the years into a family of products, adding newer ones through a mixture of acquisitions and self-development.

OpenView has established a requirements management infrastructure to support global distributed development for more than six years using Borland's CaliberRM product. Mr. Heller will show how HP utilizes this tool in combination with the open source tool

XPlanner, which supports XP development. You are invited to learn about tool experiences and changes in development culture.

The INCOSE REGAL Initiative

Wednesday, September 13, 17:00 Center Forum

A Requirements Guide For All (REGAL): An INCOSE Initiative

Jeremy Dick (Integrate Systems Engineering, UK)

This presentation describes an INCOSE initiative to collect from the systems engineering community information about good practice in requirements engineering, management and development. This initiative is the brainchild of the INCOSE Requirements Working Group, and is intended to provide a living requirements “Book of Knowledge” accessible in electronic form on the web, through which practitioners can contribute, evaluate and debate good requirements practice. It is managed by Gauthier Fanmuy, PSA Peugeot Citroën.

Exhibition

Visit our tool vendor exhibition! The exhibition will be open from Wednesday to Friday during all breaks and 16:00-17:30 on Wednesday and Thursday.

Meetings

The following meetings will be held during RE'06. Attendance is by invitation only.

IFIP 2.9 Meeting

Time: Tuesday, September 12 17:30-19:00

Location: Satellite 6 & 7

RE Steering Committee Meeting

Time: Wednesday, September 13 17:30-20:00

Location: Satellite 6 & 7

RE'07 Organizing Committee Lunch

Time: Thursday, September 14 12:30-14:00

Location: Satellite 6 & 7

RE'07 Program Board and Program Committee Meeting

Time: Thursday, September 14 17:30-19:00

Location: Avenues 4 & 5

Tutorials

On Monday and Tuesday of the conference week, RE'06 offers seven tutorials on a variety of subjects by world class experts in Requirements Engineering. The topics range from how-to-do specific RE activities to broad overviews of RE-related subject areas.

For detailed descriptions of the tutorials, see http://www.ifi.unizh.ch/req/events/RE06/WS_Tut_DocSym/Tutorials.

- F1** Tuesday, September 12 – Full Day Center Forum
Context: Its Discovery, its Forms, and its Management in Non-Functional Requirements
Don Gause, Savile Row, LLC and Binghamton University (USA)
- H1** Monday, September 11 – Morning Center Forum
Ten Simple Steps to Better Requirements
Ian Alexander, Independent Consultant (UK)
- H2** Monday, September 11 – Afternoon Center Forum
Change Agency for Requirements Engineers
Erik Simmons, Intel (USA)
- H3** Monday, September 11 – Morning South Forum
Building a Platform-Independent Model with MDA
Chris Armstrong (Armstrong Process Group, USA)
- H4** Monday, September 11 – Afternoon South Forum
Successful Product Line Development with Strong Requirements Engineering and Management
Andreas Birk (sd&m, Germany) and Gerald Heller (Hewlett-Packard, Germany)
- H5** Tuesday, September 12 – Morning South Forum
Security Requirements Engineering Methodologies
Fabio Massacci, John Mylopoulos and Nicola Zannone (Università di Trento, Italy)
- H6** Tuesday, September 12 – Afternoon South Forum
Aspect-Oriented Requirements Engineering
Awais Rashid, Ruzanna Chitchyan (Lancaster University, UK), Ana Moreira, João Araújo (Universidade Nova de Lisboa, Portugal)

Workshops

Six workshops will be held on Monday, September 11 and Tuesday, September 12 in conjunction with RE'06. For detailed program information, please refer to the web pages of the workshops.

- W1** Monday, September 11, 2006 Avenue 5
AuRE'06 – International Automotive Requirements Engineering Workshop
Workshop Organizers: Betty H. C. Cheng (Michigan State University, USA), Frank Houdek (DaimlerChrysler Research, Germany), Shigeyuki Kawana (Toyota Motor, Japan)
<http://www.nise.org/AuRE/>
- W2** Monday, September 11, 2006 Avenue 4
REV'06 – First International Workshop on Requirements Engineering Visualization
Workshop Organizers: Brian Berenbach (Siemens Corporate Research, USA), Chang Hwan Peter Kim (Univ. of Waterloo, Canada)
<http://swen.uwaterloo.ca/~chpkim/re06/>
- W3:** Monday, September 11, 2006 Avenue 3
CERE'06 – Fourth International Workshop on Comparative Evaluation in Requirements Engineering
Workshop Organizers: Ann Hickey (University of Colorado at Colorado Springs, USA), Pete Sawyer (Lancaster University, UK)
<http://www.di.unipi.it/CERE06>
- W4:** Cancelled
- W5:** Tuesday, September 12, 2006 Avenue 5
MeRE'06 – First International Workshop on Multimedia Requirements Engineering – Beyond Mere Descriptions
Workshop Organizers: Oliver Creighton (Siemens AG, Corporate Technology, Germany), Bernd Brügge (TU München, Germany)
<http://www.bruegge.in.tum.de/MeRE/>
- W6:** Tuesday, September 12, 2006 Avenue 4
IWSPM'06 – International Workshop on Software Product Management
Workshop Organizers: Johan Versendaal (Universiteit Utrecht, The Netherlands), Christof Ebert (Alcatel, Paris, France), Sjaak Brinkkemper (Universiteit Utrecht, The Netherlands)
<http://www.cs.uu.nl/groups/OI/IWSPM>
- W7:** Tuesday, September 12, 2006 Avenue 3
SOCER'06 – Service-Oriented Computing: Consequences for Engineering Requirements
Workshop Organizers: Luciano Baresi (Politecnico di Milano, Italy), Xavier Franch (Universitat Politècnica de Catalunya, Spain), Neil Maiden (City University London, UK)
<http://www.lsi.upc.edu/events/soccer/>

Doctoral Symposium

Tuesday, September 12, 2006 Avenue 2

The Doctoral Symposium is a one-day workshop that gives Doctoral students the opportunity to present their research and receive feedback in a constructive and international atmosphere.

Topic 1: Welcome and Roadmap of a PhD
Betty Cheng (Michigan State University, USA)

On Performance Requirements and Validation Using an Evolutionary Model

Chi-Wei Ho (North Carolina State University, USA)

Software Release Planning via Systematic Impact Analysis
Omolade Saliu (University of Calgary, Canada)

Topic 2: Setting up Milestones
Kevin Ryan (Lero – University of Limerick, Ireland)

Dependability in Early Software Development Stages
Sadaf Mustafiz (McGill University, Canada)

Assessing Satisfaction of Requirements by Design Elements
E. Ashlee Holbrook (University of Kentucky, USA)

Topic 3: Riding the Rollercoaster
Nancy Day (University of Waterloo, Canada), Annie I. Antón (North Carolina State University, USA)

Stakeholder Mapping for Stakeholder Identification
Jidtima Sunkhamani (University College London, UK)

A Product Software Knowledge Infrastructure for Situational Capability Maturation
Inge van de Weerd (Universiteit Utrecht, The Netherlands)

Topic 4: Finishing up the PhD
Dan Berry (University of Waterloo, Canada)

Observer presentations (one slide – two minutes each)

- A Procedure for Selecting Requirements Elicitation Techniques
Dante Carrizo (Universidad Complutense de Madrid, Spain)
- Evolution of Security Policies
Virginia N. L. Franqueira (Universiteit Twente, The Netherlands)
- Methodological Support for Building Cohesion among Software Artifacts to Help Understanding Emergent Software Behavior
Robin A. Gandhi (University of North Carolina at Charlotte, USA)
- A Modeling Infrastructure for the Integration of Requirements Artifacts
Stefan Winkler (FernUniversität in Hagen, Germany)
- Value-Based Requirements Engineering and IS Architecture Design Support for Cross-Organizational Environments
Novica Zarvić (Universiteit Twente, The Netherlands)
- Handling Location Based Feature Interactions in the Context of Dynamically Changing Requirements
Armstrong Nhlabatsi (The Open University, UK)

Lessons learnt
All Participants



A date for your diary

**15th IEEE International
REQUIREMENTS ENGINEERING CONFERENCE**

**October 17-19th, 2007
Delhi, India**

www.re07.org

Conference themes:

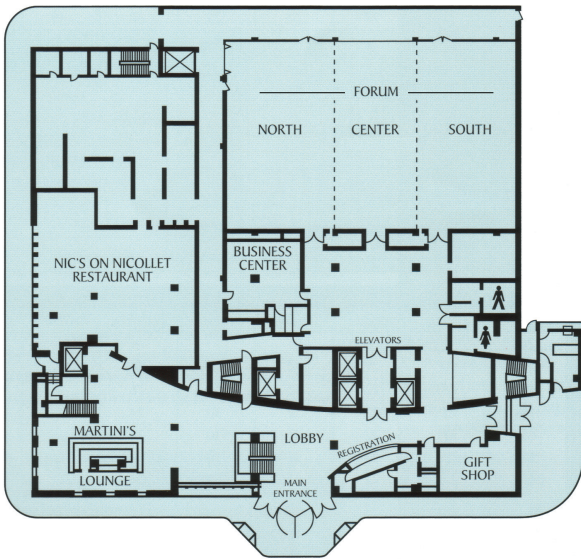
- Requirements Engineering in the global economy
- Collaborative Requirements Engineering
- Requirements, culture, & localisation

Research and industrial experience papers, tutorials, workshops, with new interactive sessions featuring videos, posters, debates and research demonstrations.

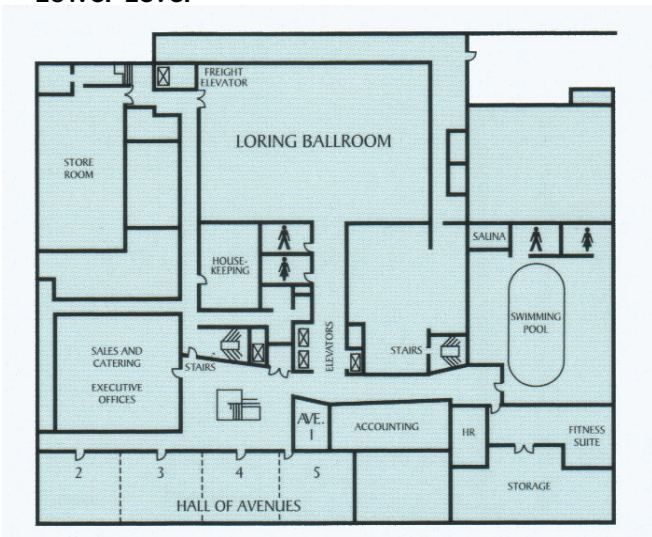
General Chair: Pankaj Jalote, IIT, Delhi, India. Program Chair: Alistair Sutcliffe, University of Manchester, UK

Locations

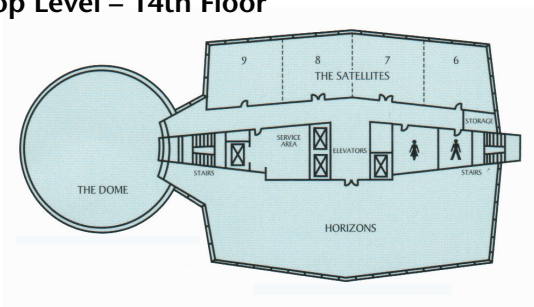
Lobby Level



Lower Level



Top Level – 14th Floor



Event

Level Location

Registration (Sunday)	-1	Lower Level Lobby
Registration (Mon-Fri)	L	North Forum
Tutorials	L	Forum; see page 16
Workshops	-1	Hall of Avenues; see page 16
Doctoral Symposium	-1	Avenue 2
Plenary Sessions	L	Center & South Forum
Research Track A	-1	Avenues 4 & 5
Research Track B	L	South Forum
Practitioner Track	L	Center Forum
Birds-of-a-Feather	14	Satellites 6 & 7
Posters	L	North Forum
Exhibition	L	North Forum
RE'07 PC Meeting	-1	Avenues 4 & 5
Other Meetings	14	Satellites 6 & 7
Speakers' Ready Room	14	Satellites 6 & 7
Breakfast	L	North Forum
Breaks	L	North Forum
Mon&Tue Lunch	14	Horizons
Wed to Fri Lunch	-1	Loring
Reception	14	Dome & Horizons
Banquet	-	Solera Restaurant 900 Hennepin Ave. Student volunteer guides will departure from the main lobby towards Solera every five minutes starting at 18:00

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