





10th International Conference on Web Engineering

July 5 - 9, 2010 ■ Vienna, Austria

icwe2010.webengineering.org





Program



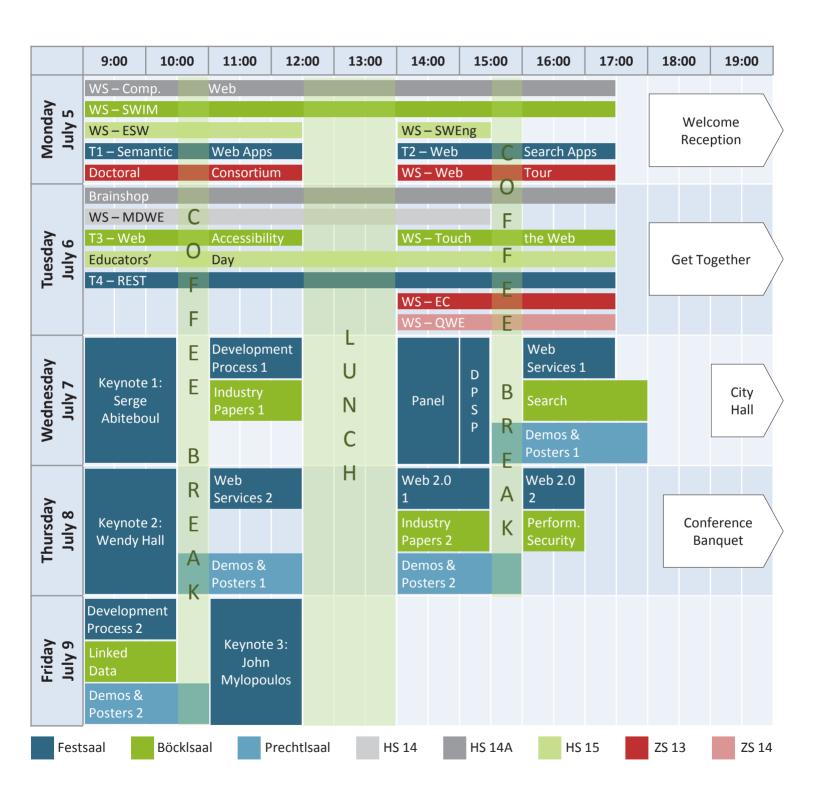
AT A GLANCE

REGISTRATION:

Daily from 8 a.m. onwards. Monday and Tuesday: Foyer; Wednesday to Friday: Prechtlsaal.

INDUSTRIAL EXHIBITION:

Wednesday to Friday from 9 a.m. onwards: Prechtlsaal.



WELCOME







Dear participants!

We would like to welcome you to the 10th International Conference on Web Engineering (ICWE 2010) hosted by the Vienna University of Technology, Austria.

The Vienna University of Technology (TU Vienna) is located in the heart of Europe, in a cosmopolitan city of great cultural heritage and diversity. For nearly 200 years, the TU Vienna has been a place of research, teaching, and learning in the service of progress. The TU Vienna is among the most successful technical universities in Europe and is Austria's largest scientific-technical research and educational institution.

Web engineering is now a well-established and mature field of research with strong relationships to other disciplines such as software engineering, human computer interaction, and artificial intelligence. Web engineering has been also recognized as a multidisciplinary field, which is growing fast together with the growing of the World Wide Web. This evolution is manifested in the richness of the Web Engineering conference series, which attracts researchers, practitioners, educators, and students from all over the world.

This year's call for research papers attracted a total of 120 submissions from 39 countries spanning all continents of the world with a good coverage of all the different aspects of Web engineering. Topics addressed by the contributions include Model-Driven Web Engineering, Web Services, Performance, Search, Semantic Web, Quality and Testing, as well as Web 2.0, Rich Internet Applications, and Mashups. All submitted papers were reviewed in detail by at least three members of the Program Committee, which was composed of experts in the field of Web engineering from 23 countries. Based on their reviews, 26 submissions were accepted as full papers, giving an acceptance rate of 22%. Additionally, 6 papers have been accepted for the Industry Track. Complementing the high quality papers are 9 exciting workshops, 4 informative tutorials, 13 thought-provoking demos and posters, a doctoral consortium, and an industrial exhibition. Due to the ever growing importance of teaching and learning, ICWE 2010 also hosts the 1st International Educators' Day on Web Engineering Curricula.

We wish to thank our outstanding keynote speakers Serge Abiteboul, Wendy Hall, and John Mylopoulos for sharing their deep insights on future challenges and trends in Web Engineering.

Finally, we would like to express our gratitude to all the institutions and sponsors that supported ICWE 2010, namely, the Vienna University of Technology, the Business Informatics Group, the Austrian Computer Society, the Austrian Federal Ministry of Science and Research, the Austrian Federal Ministry for Transport, Innovation and Technology, SIEMENS, Microsoft, SparxSystems, the Vienna Convention Bureau, and Austrian Airlines. The conference would not have been possible without the endorsement of the International World Wide Web Conference Committee (IW3C2), and the International Society for Web Engineering (ISWE). In this context, we would especially like to thank Bebo White and Martin Gaedke for their work as our liaisons to these two organizations. Thanks also to Geert-Jan Houben, who acted as liaison to the ICWE steering committee. We are also indebted to the Chairs of the different tracks (Boualem Benatallah, Fabio Casati, Gustavo Rossi, Claudio Bartolini, Heiko Ludwig, Florian Daniel, Federico M. Facca, Jaime Gomez, Daniel Schwabe, Marco Brambilla, Sven Casteleyn, Cesare Pautasso, Takehiro Tokuda, Hamid Motahari, Birgit Pröll, Manuel Wimmer, and Schahram Dustdar), to the members of the program committee, to the external reviewers, and last but not least to the many local volunteers. All of them helped with their enthusiastic work to make ICWE 2010 a reality and success.

A special thanks to all the researchers and students who contribute with their work and participate in the conference. Enjoy the conference, the food, the hospitality, and the beautiful and charming environment of the city of Vienna!

Gerti Kappel (General Chair)

Vienna University of Technology



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KEYNOTES



WEB INFORMATION MANAGEMENT AND KNOWLEDGE BASES

SERGE ABITEBOUL
INRIA SACLAY AND ENS CACHAN, FRANCE

Wednesday, July 7th 2010, 9 a.m. Festsaal



Abstract

The emergence of Web 2.0 and social network applications has enabled more and more users to share sensitive information over the Web. The information we manipulate has many facets: data, annotations, localization (e.g., bookmarks), login and keys, access rights, ontologies, beliefs, time and provenance information, etc. To find data, one typically has to perform a number of complex tasks such as search/query, authentication, data extraction. More and more, we also want to control how our personal data is used.

We will argue that all this should be viewed in the holistic context of a distributed knowledge base. More precisely, we use extensions of distributed datalog. Logical statements are used to capture these different facets of information that are typically considered in isolation. Knowledge can be communicated, replicated, queried, updated, and monitored. The fact that we use a formal model allows formally proving or disproving desirable properties such as soundness (data is only acquired legally) and completeness (one can acquire all data that one can legally claim). It also allows complex reasoning for searching information, within a rich mix of very different scenarios ranging from information in centralized servers to massively distributed, from fully trusted to untrusted, and providing encrypted or clear information, which is the reality of today's Web.

This is a joint work with Alban Galland, INRIA Saclay and ENS Cachan.

Biography

Serge Abiteboul, Telecom Paris, Ph.D. in computer science, USC Los Angeles, and Thèse d'Etat, University of Paris Sud. His research is in databases, electronic commerce, document management, digital libraries and more recently on Web data management. He is a researcher at INRIA Saclay and ENS Cachan. He has held professor positions at Stanford and Ecole Polytechnique. He is one of the co-authors of Foundations of Databases, the reference in database theory. He co-founded in 2000 a start-up, named Xyleme. He received the 1998 ACM SIGMOD Innovation Award, and the 2007 Prix d'Informatique de l'Académie des Sciences. He has been program chair of a number of conferences including ICDT-90, ICALP-1994, ACM PODS-1995, ECDL-99 and VLDB-09. He has been awarded in 2008 an ERC Advanced Grant, namely Webdam, on Foundations of Web Data Management. He is a member of the French Académie des Sciences since 2008.



THE EMERGING SCIENCE OF THE WEB AND WHY IT IS IMPORTANT

WENDY HALL
UNIVERSITY OF SOUTHAMPTON, UK

Thursday, July 8th 2010, 9 a.m. Festsaal



Abstract

With the advent of the internet and the World Wide Web we are able to share information as never before. The Web has become a critical global infrastructure. Since its emergence in the mid-1990s, it has exploded into hundreds of billions of pages that touch almost all aspects of modern life. Today the jobs of more and more people depend on the Web. Media, banking and health care are being revolutionized by it, and governments are even considering how to run their countries with it.

Little appreciated, however, is the fact that the Web is more than the sum of its pages and it is more than its technical protocols. Vast emergent properties have arisen that are transforming society. E-mail led to instant messaging, which on the Web has led to social networks such as Facebook and Twitter. The transfer of documents led to file-sharing sites such as Napster, which have led to user-generated portals such as blogs, Flickr and YouTube. Web 2.0, tagging content with labels, is creating online communities that share everything from concert news to health care. Looking forward we are adding to the Web of documents by creating a Web of linked data. It is our hypothesis that this will become the dominant data sharing and integration platform and that its effect on the world will be as profound and unexpected as the impact of the first Web

As we seek to understand the origins of the Web, appreciate its current state and anticipate possible futures there is a need to address the critical questions that will determine how the Web evolves as both a social and a technical network. The emerging field of understanding these issues is becoming known as Web Science. In this talk we will explore how this new science of the Web has become established, the insights that are beginning to emerge and discuss the major research and education challenges ahead.

Biography

Wendy Hall is a Professor of Computer Science at the University of Southampton in the UK and was Head of the School of Electronics and Computer Science from 2002-2007.

In 2008 she was elected as President of the Association for Computing Machinery; the first person from outside North America to hold this position. She is a member of the Prime Minister's Council for Science and Technology and is a founding member of the Scientific Council of the European Research Council.

She was awarded a DBE in the Queen's New Year's Honours list in 2009, and was elected to the Fellowship of the Royal Society in May 2009, and was the recipient of the 2009 Duncan Davies Medal, awarded by the Research and Development Society.

KEYNOTES





REQUIREMENTS ENGINEERING IN THE DAYS OF SOCIAL COMPUTING

JOHN MYLOPOULOS
UNIVERSITY OF TRENTO, ITALY

Friday, July 9th 2010, 11 a.m. Festsaal



Abstract

Thanks largely to Web and other technologies, we are experiencing the rise of a new paradigm for computing that often goes under the label of "social computing". In this paradigm, computing is conducted through services offered by one agent (the server) to another (the client). These services are assembled dynamically and adapt, depending on circumstances. Moreover, the notion of "system" is extended to include software as well as human and organizational agents working together towards the fulfilment of stakeholder requirements. Most importantly, social computing leverages knowledge of human/organizational agents to conduct "computations" that go beyond traditional notions of computations. Early examples of this kind of computing include collaborative filtering, online auctions, prediction markets, reputation systems, etc.

The advent of this computing paradigm has changed drastically the nature of requirements for such systems. We review traditional and goal-oriented approaches to requirements engineering and argue for the need to extend such approaches (i) to accommodate the modeling and analysis of requirements preferences and priorities, (ii) to accommodate the notion of social commitment as the basic building block for specifying solutions to social problems, (iii) to include a new class of requirements we call awareness requirements. Such requirements impose constraints on adaptation mechanisms needed to meet stakeholder needs.

The research reported in this presentation is based on on-going work between the author and Alex Borgida, Amit Chopra, Fabiano Dalpiaz, Neil Ernst, Paolo Giorgini, Ivan Jureta, Alexei Lapouchnian, and Vitor Souza.

Biography

John Mylopoulos holds a distinguished professor position (chiara fama) at the University of Trento, and a professor emeritus position at the University of Toronto. He earned a PhD degree from Princeton University in 1970 and joined the Department of Computer Science at the University of Toronto that year. His research interests include conceptual modelling, requirements engineering, data semantics and knowledge management. Mylopoulos is a fellow of the Association for the Advancement of Artificial Intelligence (AAAI) and the Royal Society of Canada (Academy of Sciences). He has served as programme/general chair of international conferences in Artificial Intelligence, Databases and Software Engineering, including IJCAI (1991), Requirements Engineering (1997), and VLDB (2004). He is currently serving as co-editor of the Lecture Notes in Business Information Processing (LNBIP) series published by Springer-Verlag.

Dear workshop participants,

stepped in the tradition of the conference, also the 2010 edition of ICWE complements its research and industrial program with a selection of workshops that aim at providing researchers and practitioners of the Web Engineering area with a discussion forum for novel ideas, preliminary results, and prototype implementations.

In the definition of the workshop program our goal was twofold: First, we aimed at providing the typical audience of ICWE with a set of workshop topics that reflects the traditional interests of the community, and that it is as wide and comprehensive as possible. Second, we wanted to attract new audience to the conference, selecting also workshops that cover emerging topics that extend the traditional focus of ICWE and bring in subjects like the Semantic Web, data management, the Internet of things, web-enabled tourism, and many more. The result of this effort is a selection of 9 workshops that received in total more than 100 submissions and that we believe constitute an outstanding complement to ICWE's main program.

We hope you find the ICWE workshop program of your interest and that you enjoy your participation.

Florian Daniel, University of Trento, Italy Federico M. Facca, Create-Net, Italy

LIST OF WORKSHOPS

- 2nd International Workshop on Lightweight Composition on the Web (ComposableWeb 2010) Workshop Organizers: Florian Daniel, Sven Casteleyn, and Geert-Jan Houben
- 2nd International Workshop on Semantic Web Information Management (SWIM 2010) Workshop Organizers: Roberto De Virgilio, Fausto Giunchiglia, and Letizia Tanca
- 1st Workshop on Engineering SOA and the Web (ESW'10) Workshop Organizers: Uwe Zdun, Schahram Dustdar, and Bruno Crispo
- 1st International Workshop on Service Web Engineering (SWEng 2010) Workshop Organizers: Lyndon Nixon, John Domingue, and Barry Norton
- 1st International Workshop on Web Engineering & Tourism (WEBTOUR 2010) Workshop Organizers: Hannes Werthner, Christoph Grün, Birgit Pröll, and Arno Scharl
- 6th Model-Driven Web Engineering Workshop (MDWE 2010)

 Workshop Organizers: Gustavo Rossi, Nora Koch, Geert-Jan Houben, and Antonio Vallecillo
- 1st International Workshop on Quality in Web Engineering (QWE 2010)

 Workshop Organizers: Silvia Abrahão, Cristina Cachero, Cinzia Cappiello, and Maristella Matera
- 1st International Workshop on Enterprise Crowdsourcing (EC 2010) Workshop Organizers: Claudio Bartolini and Maja Vukovic
- 1st International Workshop on Web-enabled Objects (TouchTheWeb 2010) Workshop Organizers: Fernando Lyardet and Vicente Pelechano



2ND INTERNATIONAL WORKSHOP ON LIGHTWEIGHT COMPOSITION ON THE WEB (COMPOSABLEWEB 2010)

Information integration, application integration and component-based software development have been among the most important research areas for decades. The aim of integration is that of creating new software products by integrating existing components and data, rather than entirely re-doing development from scratch. The last decade in this area has been characterized by a particular focus on web services, the very recent years by the advent of web mashups, a new and user-centric form of integration, and of lightweight composition approaches for the Web. Despite the few years of research in these latter areas, promising results have already been achieved in assisting mashup development, yet the research agenda is still full of exciting challenges.

ComposableWeb aims at bringing together researchers and practitioners that work on mashups and composition on the Web, in order to discuss past, present and especially future of the practice and to address its challenges. The

ORGANIZERS:

Florian Daniel Sven Casteleyn Geert-Jan Houben

WHEN?

Monday, July 5th, 09:30 - 17:00

WHERE? HS 14A

workshop welcomes contributions that shed light on the area from different perspectives and particularly addresses communities like Web Engineering, Service Engineering, Business Process Management, Databases, Semantic Web, and Software Engineering.

09:30 - 10:30 Session 1

Welcome and Workshop Introduction

Workshop Chairs

Keynote: "From Composition to End Users Programming"

Boualem Benatallah

11:00 - 12:30 Session 2

An Approach to Enable Replacement of SOAP Services and REST Services in Lightweight

Teodoro De Giorgio, Gianluca Ripa, and Maurilio Zuccalà

Context, Quality and Relevance: Dependencies and Impacts on RESTful Web Services Design

Hong-Linh Truong, Schahram Dustdar, Andrea Maurino, and Marco Comerio

Quality-based Mashup Recommendations

Matteo Picozzi, Marta Rodolfi, Cinzia Cappiello, and Maristella Matera

14:00 - 15:30 Session 3

Partial Information Extraction Approach to Lightweight Integration on the Web

Junxia Guo, Prach Chaisatien, Hao Han, Tomoya Noro, and Takehiro Tokuda

Domain-specific Mashups: from all to all you need

Stefano Soi and Marcos Baez

End User Requirements for the Composable Web

Abdallah Namoun, Tobias Nestler, and Antonella De Angeli

16:00 - 17:00 Session 4

Demonstrations of tools, prototypes, and novel ideas

Discussion and workshop closing

Workshop Chairs and Participants



2ND INTERNATIONAL WORKSHOP ON SEMANTIC WEB **INFORMATION MANAGEMENT (SWIM 2010)**

ORGANIZERS:

Roberto De Virgilio Fausto Giunchiglia Letizia Tanca

WHEN?

Monday, July 5th, 09:00 - 17:30

WHERE? Böcklsaal The Second International Workshop on "Semantic Web Information Management" (SWIM) aims to review the most recent data-centered solutions for the Semantic Web. In particular, the workshop's ambition is to present and analyze techniques for semantic information management, taking advantage of the synergies between the logical basis of the Semantic Web and the logical foundations of conceptual modeling. Indeed, a leitmotif of these research areas is the proposal of models and methods to represent and manage appropriately structured data, permitting it to be easily machine-processable on the Web. The long-standing experience of the information modeling community can provide a significant contribution to the substantial problems arising in semantic data management using technologies such as RDF, RDFS and OWL.

Opening Ceremony 09:00 - 09:10

09:10 - 10:30 Session 1: Semantic Web Data Querying and Transformation

Selecting Materialized Views for RDF Data

Roger Castillo and Ulf Leser

How to Modify on the Semantic Web? - A Web Application Architecture for Algebraic Graph Transformations on RDF

Benjamin Braatz and Christoph Brandt

Transformation of the Common Information Model to OWL

Andreas Textor, Jeanne Stynes, and Reinhold Kroeger

11:00 - 12:30 Session 2: Semantic Web Data Engineering

> Automatically Identifying Bounds on Semantic Annotations for Bioinformatics Web Service **Input Parameters**

Ravinder Singh, Sean Bechhofer, Khalid Belhajjame, and Suzanne Embury

* T^2.O.M. T.O.M.: Techniques and Technologies for an Ontology-based Mobility Tool with **Open Maps**

Michele Ruta, Floriano Scioscia, Saverio Ieva, and Eugenio Di Sciascio

Managing Adaptivity in Collaborative Processes using Policies and User Profiles

Juri Luca De Coi, Marco Fisichella, and Maristella Matera

14:00 - 15:40 Session 3: Semantic Web Data Exploration

- * Slicing Linked Data by Extracting Significant, Self-describing Subsets: the DBpedia Case Michele Minno, Davide Palmisano, and Michele Mostarda
- Semantic Wonder Cloud: Exploratory Search in DBpedia Roberto Mirizzi, Azzurra Ragone, Tommaso Di Noia, and Eugenio Di Sciascio

Improving Web Search Results for Homonyms by Suggesting Completions from an Ontology Tian Tian, James Geller and Soon Ae Chun

An Approach to Semantic Information Retrieval for the Semantic Web based on Natural Language Query Understanding

Beniamino Di Martino

16:00 - 17:00 Interactive Demo Session (demonstrating the papers marked with *)

17:00 - 17:30 Conclusive Discussion



1ST WORKSHOP ON ENGINEERING SOA AND THE WEB (ESW'10)

→ IN CONJUNCTION WITH SWENG 2010

Service-Oriented Architectures (SOA) are nowadays used as the backbone of many Web applications. ESW'10 will focus on the overlap of engineering service-oriented systems and Web applications into a coherent system. The main goals of the workshop are to bring together experts, both from industry and academia, who work on the interdependent context of SOA and Web applications and use engineering methods to make that link. The workshop seeks high quality papers on the following topics (among others): Monitoring of SOAs via the Web, Management of SOAs via the Web, Governance of SOAs via the Web, Integration of SOAs and Web Applications, Web Dashboards for SOAs, Monitoring and Management for Compliance of SOA, Metrics for SOA Management, Security Management in SOA, and Engineering Methods and Approaches for SOAs and Web Applications. The workshop will be a full day interactive workshop with sessions organized to facilitate discussion and interaction among the participants.

ORGANIZERS:

Uwe Zdun Schahram Dustdar Bruno Crispo

WHEN?

Monday, July 5th, 09:15 - 12:30

WHERE? HS 15

09:15 - 09:30 Welcome

09:30 - 10:30 Session 1

Analyzing Compliance of Service-Based Business Processes for Root-Cause Analysis and Prediction

Carlos Rodríguez, Patrícia Silveira, Florian Daniel, and Fabio Casati

Trade-off Between Complexity of Structured Tagging and Effectiveness of Web Service Retrieval Maciej Gawinecki, Giacomo Cabri, Marcin Paprzycki, and Maria Ganzha

10:30 - 11:00 Coffee Break

11:00 - 12:30 Session 2

Aspect Oriented Checkpointing Approach of Composed Web Services

Soumaya Marzouk, Afef Jmal Maâlej, and Mohamed Jmaiel

A Runtime Performance Analysis for Web Service-Based Applications

Afef Mdhaffar, Soumaya Marzouk, Riadh Ben Halima, and Mohamed Jmaiel

Business Process Compliance through Reusable Units of Compliant Processes

David Schumm, Oktay Turetken, Natallia Kokash, Amal Elgammal, Frank Leymann, and

Willem-Jan van den Heuvel



1ST INT. WORKSHOP ON SERVICE WEB ENGINEERING (SWENG 2010)

→ IN CONJUNCTION WITH ESW'10

ORGANIZERS: Lyndon Nixon John Domingue Barry Norton

WHEN? Monday, July 5th, 14:00 - 16:00

> WHERE? HS 15

In the last years, a thriving research vision has emerged of the Service Web, driven by the continuing trend towards service-oriented architectures (SOA), cloud computing and Web 2.0 APIs, in which Web sites provide programmatic access to their content and functionality. We envision a future Web in which billions of services will be seamlessly found, composed and executed just as how in today's Web we can find and browse billions of documents, enabled by the use of semantic technologies for describing richly the functional and non-functional characteristics of services and enabling systems to automate the requisite mediation and agreement between services.

To achieve such a vision, current software engineering practices need to adapt to the brave new world of Web-based services. Current content and functionality providers need to consider the specific requirements of future service provision on the Web, including how to address new challenges such as the

semantic description of services, means for service mediation and negotiation, as well as models and conditions for composition with other services. Every Web user will also be enabled to create and offer services on this Service Web, making lightweight yet robust approaches compulsory.

The goal of this workshop will be to continue a dialogue among researchers, software engineers and future service providers on the challenges and solutions to future service engineering on the Service Web.

14:00 - 15:30 Session 1

RESTful Code Partitioning with a JavaScript Middleware

Janne Kuuskeri and Tommi Mikkonen

Semantic Annotation of RESTful Services Using External Resources

Victor Saquicela, Luis. M. Vilches-Blázquez, and Óscar Corcho

The SOA Paradigm and E-Service Architecture Reconsidered from the E-Business Perspective Stanislaw Ambroszkiewicz, Waldemar Bartyna, Marek Faderewski, and Grzegorz Terlikowaki

15:30 - 16:00 Wrap-up, Closing



1ST INTERNATIONAL WORKSHOP ON WEB ENGINEERING & TOURISM (WEBTOUR 2010)

The Internet has become a cornerstone of the tourism & travel industry and created an online travel market that facilitates tourists to search for information and book their trip online. The huge number of travel-related Web sites, however, might lead to daunting information overload. In order to support tourists in decision-making, new methods and technologies are required to deliver highly targeted services to tourists in all phases of the tourist life cycle. Also the supplier side, including destination management and travel organizations, has to keep up with the rapid developments in ICT. For this purpose, they have to use innovative Web mining methods to analyze the market, interorganizational Web applications/services to exchange information and novel forms of social Web and rich Internet applications to enforce the contact with their customers.

WHEN?

Birgit Pröll

Arno Scharl

ORGANIZERS:

Hannes Werthner

Christoph Grün

Monday, July 5th, 14:00 - 17:30

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The crucial prerequisite for all these developments are proper Web engineering

techniques to allow for a systematic development and maintenance of next generation tourism Web applications. This workshop will consider all the research challenges related to the combined field of Web engineering and tourism.

14:00 - 14:30 Invited Talk

Stimulating Cultural Awareness in Collaborative Virtual Environments

Dieter Merkl, E-Commerce Group, Vienna University of Technology

14:30 - 15:30 Session 1

Tourist Trip Planning Functionalities: State-of-the-Art and Future

Junxia Guo, Prach Chaisatien, Wouter Souffriau, and Pieter Vansteenwegen

Personalized Tourist Route Generation

Ander Garcia, Olatz Arbelaitz, Maria Teresa Linaza, Pieter Vansteenwegen, and Wouter Souffriau

15:30 - 16:00 Coffee Break

16:00 - 17:30 Session 2

Automated Generation of Itineraries in Recommender Systems for Tourism

Pierpaolo Di Bitonto, Francesco Di Tria, Maria Laterza, Filippo Tangorra, Teresa Roselli, and Veronica Rossano

A Method for Assessing Website Communicative Efficacy Using a Semantic Annotation Tool Nadzeya Kiyavitskaya, Nicola Zeni, Cristina Coulleri, and Luisa Mich

A Process Framework for Semantics-aware Tourism Information Systems Olawande Daramola



6TH MODEL-DRIVEN WEB ENGINEERING WORKSHOP (MDWE 2010)

ORGANIZERS:

Gustavo Rossi Nora Koch Geert-Jan Houben Antonio Vallecillo

WHEN?

Tuesday, July 6th, 09:15 - 15:30

WHERE? HS 14 Web Engineering is a specific domain in which Model-Driven Engineering (MDE) can be successfully applied. Existing model-based Web Engineering approaches already provide excellent methods and tools for the design and development of most kinds of Web applications. They address different concerns using separate models (navigation, presentation, workflows, etc.) and come with model compilers that produce most of the application's Web pages and logic based on these models. However, most of these Web engineering proposals do not fully exploit all the potential benefits of MDE, such as complete platform independence, meta-modeling, and model transformations.

In addition, there is a trend towards the incorporation of emerging technologies like Rich Internet Applications, Mashups, Semantic Web and (Semantic) Web Rule Languages, which aim at fostering application interoperability, especially within the scope of the Web 2.0 and its related technologies and richer

applications. These current trends involve new challenges both to the modeling and model-driven development domains. However, the effective integration of all these new techniques with the already existing model-based Web Engineering approaches is still unresolved.

The aim of this workshop is to provide a forum to discuss the state-of-the-art in Model-Driven Web Engineering (MDWE), where researchers and practitioners will meet to outline a roadmap that addresses the key challenges in this area. Accordingly, we invite original, high-quality submissions for the 2010 edition of the Model-Driven Web Engineering Workshop addressing relevant topics and presenting on-going work, novel ideas, applicable tools and innovative results.

09:15 - 10:30 Session 1 (Chair: Nora Koch)

Opening and Presentation of Participants

Rapid Development of Composite Applications Using Annotated Web Services

Lars Dannecker, Marius Feldmann, Tobias Nestler, Gerald Hübsch, Uwe Jugel, and Klemens Muthmann

From Mockups to User Interface Models: An extensible Model Driven Approach

José Matías Rivero, Gustavo Rossi, Julián Grigera, Juan Burella, Esteban Robles Luna, and Silvia Gordillo

10:30 - 11:00 Coffee Break

11:00 - 12:30 Session 2 (Chair: Geert-Jan Houben)

Model-Driven Web Engineering Performance Prediction With Layered Queue Networks

Alessio Gambi, Giovanni Toffetti Carughi, and Sara Comai

Models and Meta Models for Transactions in Web Applications

Mark Douglas Jacyntho and Daniel Schwabe

Using Actions Charts for Reactive Web Application Modelling

Nina Geiger, Ruben Jubeh, Albert Zündorf, Marcel Hahn, and Tobias George

12:30 - 14:00 Lunch

14:00 - 15:30 Session 3 (Chair: Gustavo Rossi)

Modeling Search Computing Applications

Alessandro Bozzon, Marco Brambilla, Alessandro Campi, Stefano Ceri, Francesco Corcoglioniti, Piero Fraternali, and Salvatore Vadacca

Plenary Discussion and Conclusions



1ST INTERNATIONAL WORKSHOP ON QUALITY IN WEB ENGINEERING (QWE 2010)

The "Quality in Web Engineering" workshop is aimed at bringing together professionals and researchers interested in discussing recent trends and perspectives in the role of quality in Web Engineering. The main purpose will be to assess the effectiveness of existing approaches for evaluating and managing the quality of Web resources (review guidelines, usability models, usability evaluation methods, usability checkers, accessibility verifiers, information quality tools, logging tools, automatic metric capture tools, statistical tools, etc.), with the final objective of allowing participants to discuss and get to know the most innovative and advanced experiences for guaranteeing the quality of Web applications in general, and Web 2.0 applications in particular. Special emphasis will be posed on Web Engineering methods, the way they improve the development process and the quality of final applications, and the way they can be further empowered by taking into account quality principles and by

ORGANIZERS:

Silvia Abrahão Cristina Cachero Cinzia Cappiello Maristella Matera

WHEN?

Tuesday, July 6th, 13:50 - 17:45

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integrating sound quality assessment methods. An issue of particular importance is when and how the different quality characteristics should be integrated into a well-defined Web development process. In this sense, we encourage authors to submit contributions that discuss not only technical and theoretical aspects, but also methodological and practical issues related with quality for Web applications.

13:50 - 14:50 Opening, Welcome Remarks (Workshop Chairs)

Keynote Speech

Shadi Abou-Zahra, Activity Lead, WAI International Program Office, W3C

14:50 - 15:30 Session 1: Advanced Quality Features in Modern Web Applications

Developing Security Assessment Models in Web Mobile Environments

Bong Gyou Lee, Hyunsik Seo, Giseob Byun, Keon Chul Park, Soo Kyung Park, and Taisiya Kim

Association-Rules-Based Recommender System for Personalization in Adaptive Web-Based Applications (Short Paper)

Daniel Mican

15:30 - 16:00 Coffee Break

16:00 - 17:15 Session 2: Quality Evaluation and Processes

Quality in Use Model for Web Portals (QiUWeP)

Mayte Herrera Noa, Maria Angeles Moraga, Ismael Caballero, and Coral Calero

Towards Support Processes for Web Projects

Pablo Becker and Luis Olsina

Reliability Verification of Search Engines' Hit Counts

Takuya Funahashi and Hayato Yamana

17:15 - 17:45 Closing

Discussion: Future Trends in Web 2.0 Quality Design and Assessment

Closing Remarks



1ST INTERNATIONAL WORKSHOP ON ENTERPRISE CROWDSOURCING (EC 2010)

ORGANIZERS:

Claudio Bartolini Maja Vukovic

WHEN?

Tuesday, July 6th, 14:00 - 17:30

WHERE? ZS 13 Over the past few years the crowdsourcing paradigm has evolved from its humble beginnings as isolated purpose-built initiatives, such as Wikipedia and Elance and Mechanical Turk to a growth industry employing over 2 million knowledge workers, contributing over half a billion dollars to the digital economy. Web 2.0 provides the technological foundations upon which the crowdsourcing paradigm evolves and operates, enabling networked experts to work collaboratively to complete a specific task. Enterprise crowdsourcing poses interesting challenges for both academic and industrial research along the social, legal, and technological dimensions.

In this workshop we would like to challenge researchers and practitioners to think about various aspects of enterprise crowdsourcing. First, to establish technological foundations, what are the interaction models and protocols between the Enterprise and the crowd? Secondly, how is crowdsourcing going to

face the challenges in quality assurance, enabling Enterprises to optimally leverage the scalable workforce? Thirdly, what are the novel (Web) applications enabled by Enterprise crowdsourcing?

14:00 - 14:10	Opening and Introductions
14:10 - 14:40	Invited Talk Schahram Dustdar, Vienna University of Technology
14:40 - 15:40	Crowdsourcing in the Document Processing Practice Ehud Karnin, Eugene Walach, and Tal Drory Business Process Crowdsourcing as Alternative of BPO Gioacchino La Vecchia Enterprise Crowdsourcing for IT Asset Management Maja Vukovic
15:40 - 16:00	Coffee Break
16:00 - 17:00	Quality Assurance for Human-based Electronic Services: A Decision Matrix for Choosing the Right Approach Robert Kern, Hans Thies, Cordula Bauer, and Gerhard Satzger Script Programmers as Value Co-creators Cristóbal Arellano, Oscar Diaz, and Jon Iturrioz Definition of a Crowdsourcing Innovation Service for the European SMEs Fábio Oliveira, Isabel Ramos, and Leonel Santos
17:00 - 17:30	Discussion and Wrap-up



1ST INTERNATIONAL WORKSHOP ON WEB-ENABLED OBJECTS (TOUCHTHEWEB 2010)

The vision of the Internet of Things builds upon the use of embedded systems to control devices, tools and appliances. With the addition of novel communications capabilities and identification means such as RFID, systems can now gather information from other sensors, devices and computers on the network, or enable user-oriented customization and operations through short-range communication. When the information gathered by different sensors is shared by means of open Web standards, new services can be defined on top of physical elements. In addition, the new generation of mobile phones enables a true mobile Internet experience. These phones are today's ubiquitous information access tool, and the physical token of our "Digital Me". These meshes of things and "Digital Me" will become the basis upon which future smart living, working and production places will be created, delivering services directly where they are needed.

ORGANIZERS:

Fernando Lyardet Vicente Pelechano

WHEN?

Tuesday, July 6th, 14:00 - 17:30

WHERE?

Böcklsaal

The research areas involved are many, including Web Engineering, Ubiquitous Computing, Product Engineering, Distributed Systems, Human Computer Interaction, Economics, Artificial Intelligence, and many more. We look forward in this workshop to bring together different areas of expertise to help us shape a vision of creating living and working surrounded by meshes of web-enabled things. We welcome contributions on technology and concepts required to build and interact with the Internet of things, as well as scenarios, prototypes, and case studies.

14:00 - 15:30 Session 1: Linking the Web of Things

Connecting Smart Things through Web services Orchestrations

Antonio Pintus, Davide Carboni, Andrea Piras, and Alessandro Giordano

Mashing Up Your Web-enabled Home

Dominique Guinard

A Triple Space-Based Semantic Distributed Middleware for Internet of Things

Aitor Gómez-Goiri and Diego López-de-Ipiña

15:30 - 16:00 Coffee Break

16:00 - 17:00 Session 2: Emerging Applications & Interaction Paradigms

Touch-based Services? Catalogs for AAL

Jose Bravo, Ramon Hervás, and Jeseus Fontecha

Designing Context-aware Interactions for Task-based Applications

Pablo Muñoz, Pau Giner, and Miriam Gil

17:00 - 17:30 Discussion: Research Challenges for the Web of Things

World Café Conclusions, Wrap-up from Working Group Results

T1. REALIZING A SEMANTIC WEB APPLICATION

PRESENTER: Emanuele Della Valle

WHEN? Monday, July 5th, 09:00 - 12:30

> WHERE? Festsaal

Abstract

Is developing mash-ups with Web 2.0 really much easier than using Semantic Web technologies? For instance, given a music style as an input, what it takes to retrieve data from online music archives and event databases? What to merge them and to let the users explore the results? Are Semantic Web technologies up to this Web 2.0 challenge? This half-day tutorial shows how to realize a Semantic Web Application we named Music Event Explorer or shortly "meex". In the scope of this tutorial we show how to use:

- OWL to model the data sources and the application,
- RDF as data model,
- GRDDL to translate XML data sources in RDF models,
- D2RQ to translate relational database in RDF models,
- SPARQL to query the RDF models,
- Joseki as a SPARQL endpoint server to make accessible the RDF data,
- ARQ as SPARQL client,
- · Jena as application framework, RDF storage and OWL reasoner, and
- Exhibit as facet browsing Engine.

The tutorial does not require attendees to be familiar with the technologies of the Semantic Web, but only with its vision. The minimal information needed to understand each technology employed in the tutorial is provided during the tutorial itself. A limited understanding of Java should be sufficient to follow the tutorial given that the tutorial will be mainly focused on the Semantic Web side of the problem of developing a Semantic Web application.

Emanuele Della Valle, Politecnico di Milano, Italy

Emanuele Della Valle is an Assistant Professor of "Software Project Management" at the Department of Electronics and Information of the Politecnico di Milano since July 2008. He started CEFRIEL's Semantic Web Activities in 2001 and he coordinated the Semantic Web group until June 2008. He is co-author of the first Italian book on Semantic Web. He is leading the "Urban Computing" use case and the stream related track of the European Project LarKC. He was Project and Scientific Manager of the European Project Service-Finder. His major research interest is in understanding business strategy and in translating theoretical results into applications. He performs research that is justified and guided by business opportunities. He leaded and participated into several consulting activities related to strategic evolution of distributed information systems, integration of different back-end systems and various feasibility studies for Web portal and document management systems.

TUTORIALS



T2. ENGINEERING WEB SEARCH APPLICATIONS

Abstract

With the advent of the Web, search has become the prominent paradigm for information seeking, both across the online space and within enterprises. Search frameworks and components can be used to build search-based applications in diverse vertical fields. However, no precise engineering methods and approaches have been devised for this class of applications.

This tutorial presents the peculiarities of advanced Web search applications, describes some tools and techniques that can be exploited, and offers a methodological approach to development. The approach proposed in this tutorial is based on the paradigm of Model Driven Development (MDD), where models are the core artifacts of the application lifecycle and model transformations progressively refine models to achieve an executable version of the system. To cope with the process-intensive nature of the main interactions (i.e., content

PRESENTERS:

Marco Brambilla Alessandro Bozzon

WHEN?

Monday, July 5th, 14:00 - 17:30

WHERE?

Festsaal

analysis, query management, etc.), we describe the use of Process Models (e.g., BPMN models). Indeed, search-based applications are considered as process- and content-intensive applications, due to the trends towards exploratory search and search as a process vision.

The approach will be illustrated on three main classes of search applications: multidomain search, multimedia and multimodal search, and search result exploration.

Marco Brambilla, Politecnico di Milano, Italy

Marco Brambilla is Assistant Professor at Politecnico di Milano, Dipartimento di Elettronica e Informazione. He collaborates to several research projects related to advanced Web search, business process modeling, Web services, Semantic Web, semistructured data mapping, and web architectures for embedded systems. He graduated in Information Engineering at the Politecnico di Milano in April 2001, achieving a final mark of 100/100 cum laude. In 2005 he got a Ph.D. in Information Engineering at Politecnico di Milano with full marks. He is coauthor of the book "Designing Data-Intensive Web Applications" (Morgan-Kauffman, 2002). The book has been translated in Italy and published by McGraw Hill. He has been visiting researcher at Cisco System (San Josè, CA) in 2001 and at UCSD (University of California, San Diego) in 2004. Several invited seminars on conceptual modeling, Web services, workflow and Web engineering have been given at Harvard University Medical School (Boston, USA), CISCO System (San José, USA), University of California, San Diego (UCSD, USA), Stanford University (Palo Alto, USA), and Politecnico di Milano (Italy), ESEC/FSE conference (Vrije Univ., Amsterdam).

Alessandro Bozzon, Politecnico di Milano, Italy

Alessandro Bozzon is currently a post-doc researcher at Politecnico di Milano. He holds a Ph.D. in Computer Science. His current research interests are in user interaction paradigms, data visualization, and result diversification techniques in multi-domain search over heterogeneous data collections; multimedia content indexing, querying and retrieval; Web technologies (including but not limited to: Web services, service orchestration, Rich Internet Applications, Mash-up, Semantic Web, etc.), and Web application modeling. He is currently co-responsible for the "Human-computer interfaces for search computing" research track within the Search Computing project (www.search-computing.com). Alessandro Bozzon has been involved in the organization of several scientific events, such as the ICWE 2007 conference, the Pharos Summer School, the Search Computing Challenges and Directions Workshop, and the DATAVIEW 2010 Workshop.

T3. WEB ACCESSIBILITY - HOW TO OVERCOME THE DIGITAL DIVIDE

PRESENTERS:
Mario Batusic

WHEN? Tuesday, July 6th, 09:00 - 12:30

WHERE? Böcklsaal

Abstract

"The power of the web is in its universality. Access by everyone regardless of disability is an essential aspect." By Tim Berners-Lee, Director of the W3 Consortium (W3C).

The main concept enabling us to implement solutions for slogans such as "open society", "inclusion for people with disabilities" and similar, is the concept of "design for all". All products and services including buildings, electronic hardware and software should be designed so, that they either can be used immediately by all or they at least make possible trigging the accessibility gap for the disabled people through assistive technologies.

The concrete application of the "design for all" concept in the Web area bears the name "Web Accessibility". This tutorial offers a general overview of Web Accessibility and an opportunity to discuss all visitors' open issues with this

topic. The following main areas will be presented:

What is Web Accessibility and why we need it:

- The way disabled people access computers and Web
- Specific, disability-conditioned barriers in Web
- Technical causes of the barriers
- Possible solution ways

Accessibility of classical Web Sites:

- Overview of the techniques for the Web Content Accessibility Guidelines (WCAG 2.0) of the W3C/WAI Accessibility of Web Applications:
- The trend in the software development is definitely heading for Web Apps (AJAX, Flash, Silverlight).
- We present the most important techniques for making this new kind of software accessible by applying a new W3C/WAI's semantic web specification Accessible Rich Internet Applications (WAI-ARIA).

Mario Batusic, Johannes Kepler University Linz, Austria

Mario Batusic studied Theology at the University Gregoriana, Affiliated Institute FTDI in Zagreb, and received his degree in 1988. In the same year he immigrated to Austria. From 1990 to 1993 he worked as commissioner for people with disabilities at the Caritas in Eisenstadt. In 1993 he started to study Computer Science at the University of Linz. Due to economical problems he dropped out of the studies. In 1996 he started to work as a programmer and from 1999 as scientific staff at the institute Integriert Studieren at the University of Linz, where he works in different international and national projects dealing with several aspects of accessibility such as:

- Access to scientific and scholar literature for blind users
- Web Accessibility
- Software Accessibility
- Assistive Technologies

The results of his research are subject to a number of publications (e.g. ICCHP 1996, ICCHP 2000, AAATE 2001, HCI 2003, ASSETS 2004, ICCHP 2004, HCI 2005, ICCHP 2006, ICALT 2007, AAATE 2007, ASSETS 2007, ICCHP 2008).

TUTORIALS





T4. DESIGN PRINCIPLES, PATTERNS AND EMERGING TECHNOLOGIES FOR RESTFUL WEB SERVICES

Abstract

Web Services have been of increasing interest in the past years. While "Web Services" were first defined as machine-accessible services based on Web technologies, the term quickly was perceived as exclusively referring to SOAP-based services, which mirror the traditional IT integration style of distributed objects with messaging technologies layered on top of Web technologies. This tutorial focuses on an alternative approach towards the design and implementation of Web Services, based on the architectural style of the Web itself, Representational State Transfer (REST). Thus, the tutorial learning objectives specifically include giving an in-depth understanding on how the two different styles of Web Services compare, and why the decision of SOAP vs. REST is fundamental and needs to be made very early in any SOA project. We focus on the question of how to do SOA with REST, and do so by explaining and

PRESENTERS:

Cesare Pautasso Erik Wilde

WHEN?

Tuesday, July 6th, 09:00 - 17:30

WHERE?

Festsaal

highlighting the fundamental differences between the more tightly coupled "integration" style of distributed objects, and the more loosely coupled "cooperation" style of REST. Thus, attendees will gain a new perspective that highlights the importance of following Web principles to support the design of Web Services and learn why not all Web Services are made equal and that only RESTful ones are really "of the Web", whereas others are just implemented "on the Web".

The tutorial will: 1) give a clear introduction to the REST architectural style, 2) present a design methodology for REST-ful Web services, 3) discuss what are the main differences between the WS-* and REST technology stacks, 4) show how to compose RESTful services and outline related research challenges, 5) present emerging standard technologies for developing RESTful Web services such as ATOM and ATOMPUB.

Cesare Pautasso, University of Lugano, Switzerland

Cesare Pautasso is assistant professor in the new Faculty of Informatics at the University of Lugano, Switzerland. Previously he was a researcher at the IBM Zurich Research Lab and a senior researcher at ETH Zurich, where he earned his Ph.D. in computer science in 2004. His research focuses on building experimental systems to explore the intersection of model-driven software composition techniques, business process modeling languages, and autonomic/Grid computing. Recently he has developed an interest in Web 2.0 Mashups and Architectural Decision Modeling. He is the lead architect of JOpera, a powerful rapid service composition tool for Eclipse. His teaching and training activities both in academia and in industry cover advanced topics related to Web Development, Middleware, Service Oriented Architectures and emerging Web services technologies. For more information refer to www.pautasso.info.

Erik Wilde, UC Berkeley, USA

Erik Wilde is working in UC Berkeley's School of Information. He has been working on various parts of Web architecture for the past ten years. He first focused on XML and associated technologies, with a focus on data models and representations. For the past two years and as the technical director of the iSchool's Information and Service Design Program (ISD), his focus has shifted to loose coupling and service design. Erik is also very interested in "Location and the Web", the question of how the Web as a hypermedia system should be extended to support location as a first-class concept.



EDUCATORS' DAY

1ST INTERNATIONAL EDUCATORS' DAY ON WEB ENGINEERING CURRICULA (WECU 2010)

ORGANIZERS: Birgit Pröll

Sigi Reich Martin Gaedke

WHEN?

Tuesday, July 6th, 09:10 - 17:30

WHERE? HS 15 Web methodologies and technologies are evolving at a constantly high pace. It is essential for academics on the one side, to provide proper education for students at the undergraduate and graduate level. At the same time, industry is struggling to get adequately trained engineers that are able to deal with the increasing complexity of today's Web applications.

WECU attempts to get together people from academia and industry to discuss best practise in teaching, education and vocational training of Web Engineering methodologies and technologies.

The expected outcome of the event is to identify common concepts and building blocks for successful Web Engineering curricula, to discuss proposals of how to deal with the challenges in Web Engineering education, e.g., technology evolvement, and to discover ways of transferring new Web Engineering evolvements into continuing education in industry.

Another main objective of the event is to act as a kick-off event for a Memo-

randum for Web Engineering Curricula. The organizers want to assemble this Memorandum for Web Engineering Curricula based on the findings from papers and discussions of the event. In this way, we hope to inspire and facilitate proposing new educational programs in Web Engineering.

09:10 - 10:30 Session 1

Web Engineering Curriculum - A Review of 12 Years of Delivery at Postgraduate Level Yogesh Deshpande and Athula Ginige

Student Research in Web Engineering: An International Perspective on Internal and External Opportunities

Larry Hatch and Thomas J. Heistracher

An Analysis of Textbooks for Web Engineering

Birgit Pröll and Sigfried Reich

11:00 - 12:30 Session 2

Competence Centered Specialization in Web Engineering Topics in a Software Engineering Masters Degree Programme

Peter Dolog, Lone Leth Thomsen, Bent Thomsen, and Jan Stage

Using Web Design Patterns to Support Students' Web Engineering Group Projects: Lessons Learned

Susana Montero, Paloma Díaz, and Ignacio Aedo

A Draft Web Engineering Curriculum Pattern

Antonio Navarro

14:00 - 15:30 Session 3

Security and Computer Forensics in Web Engineering Education

William Bradley Glisson, Ray Welland, and L. Milton Glisson

A Course on Web Programming

Tuomas Turto and Tommi Mikkonen

Automatic Assessment of JavaScript Exercises

Ville Karavirta and Petri Ihantola

16:00 - 17:30 Conclusions and Next Steps

BRAINSHOP







BRAINSHOP ON WEB AND COLLABORATIVE TECHNOLOGIES FOR HIGHER EDUCATION (ICE 2010)

The goal of this brainshop is to create a community of people interested in harnessing the power of the web, to be able to provide collaborative technologies that foster new ways of learning and teaching. Our motivation is to improve education in a sustainable manner, both in technologically advanced countries as well as in developing countries. Participants interested in contributing to this event should be those that are passionate about providing (or helping to provide) high quality education and that are interested in exploring how web-collaboration technologies can assist in matters such as: preparation of class material and its execution, student collaboration in projects, tools supporting education and the creation and management of educational communities.

We envision this as an opportunity to gather and discuss about stories of success and failure, about ideas and possibilities; to build together a vision and define a plan towards its completion. More precisely, the desired output of the event is to have:

ORGANIZERS:

Marcos Baez Moshe Chai Barukh Raffael Stein

WHEN?

Tuesday, July 6th, 09:30 - 17:00

WHERE? HS 14A

- A consolidated document that describes what we feel is missing in this space, which are the problems we need to solve and technologies we need to develop in the short and medium term
- A concrete set of steps for how we may address these problems
- A set of consortia for coordinated submissions to european or NSF projects (or from other funding sources)

09:30 - 11:00	Presentations from participants
11:00 - 11:15	Coffee Break
11:15 - 13:00	Presentations from participants
13:00 - 14:00	Lunch
14:00 - 15:30	Discussions
15:30 - 15:45	Coffee Break
15:45 - 17:00	Talk by Ralf Gerstner, Springer, and Discussions



DOCTORAL CONSORTIUM

ORGANIZERS:

Cesare Pautasso Takehiro Tokuda

WHEN? Monday, July 5th, 09:00 - 12:30

> WHERE? **ZS 13**

The ICWE 2010 Doctoral Consortium aims at providing PhD students an opportunity to discuss their research in Web Engineering in an international forum, and with a panel of well-known experts in the field. Additionally, it will host several invited talks both to serve as motivation for students and to address their topics of interest. The aims of the Doctoral Consortium are to:

- provide PhD students with a welcoming atmosphere to present their research, receive useful feedback from senior researchers, and exchange ideas and experiences with other students
- help PhD students develop their research questions, methodology and research plan
- support a new generation of researchers

09:00 - 10:30 Session 1: Mashup and Web Services Track (Chair: Cesare Pautasso)

Use of Hypermedia Tools for End-User Development

Sebastian Ortiz-Chamorro, Gustavo Rossi, and Daniel Schwabe

A Document-Centric Approach to Open Collaboration Processes

Nelly Schuster

Description-based Mashup of Web Applications

Junxia Guo and Takehiro Tokuda

iSemServ: Towards the Engineering of Intelligent Semantic-based Services

Jabu Mtsweni, Elmarie Bierman, and Laurette Pretorius

Sustaining high-availability and Quality of Web services

Erbin Lim and Philippe Thiran

10:30 - 11:00 Coffee Break

11:00 - 12:15 Session 2: Web 2.0 Track (Chair: Takehiro Tokuda)

Client-Side Adaptation: an Approach based in Reutilization using Transversal Models

Sergio Firmenich, Silvia Gordillo, and Gustavo Rossi

QuEF (Quality Evaluation Framework) for Model-Driven Web Methodologies

Francisco José Domínguez Mayo, María José Escalona Cuaresma and Manuel Mejías Risoto

Consistent Cache Maintenance for Database Driven Websites

Pawel Leszczynski

Improvements of Webometrics by Using Sentimental Analysis for Better Accessibility of the

Web

Radek Malinský and Ivan Jelínek

Social Interaction with Cultural Heritage on the Web

Max Arends, Doron Goldfarb, and Dieter Merkl

12:15 - 12:30 Closing

Summary and Closing Panel Discussion

Martin Gaedke, Cesare Pautasso, Takehiro Tokuda, and Erik Wilde



09:00 - 09:15 Opening Ceremony

Festsaal

09:15 - 10:30 Keynote 1 (Chair: Fabio Casati)

Festsaal

Web Information Management and Knowledge Bases Serge Abiteboul, INRIA Saclay and ENS Cachan, France

10:30 - 11:00 Coffee Break

Prechtlsaal

11:00 - 12:30 Development Process 1 (Chair: Santiago Meliá)

Festsaal

Multi-level Tests for Model Driven Web Applications

Piero Fraternali and Massimo Tisi

Capture and Evolution of Web Requirements Using WebSpec

Esteban Robles Luna, Irene Garrigós, Julián Grigera, and Marco Winckler

Re-engineering Legacy Web Applications into Rich Internet Applications

Roberto Rodríguez-Echeverría, José María Conejero, Marino Linaje, Juan Carlos Preciado, and Fernando Sánchez-Figueroa

11:00 - 12:30 Industry Papers 1 (Chair: Claudio Bartolini)

Böcklsaal

Experiences in Building a RESTful Mixed Reality Web Service Platform

Petri Selonen, Petros Belimpasakis, and Yu You

WebRatio BPM: A Tool for Designing and Deploying Business Processes on the Web

Marco Brambilla, Stefano Butti, and Piero Fraternali

A Visual Tool for Rapid Integration of Enterprise Software Applications

Inbal Marhaim, Eli Mordechai, Claudio Bartolini, Ruth Bergman, Oren Ariel, and Christopher Peltz

12:30 - 14:00 Lunch

Mensa (cf. p. 42)

14:00 - 15:00 Panel (Chair: Martin Gaedke)

Festsaal

How to Successfully Teach Web Engineering?

Wednes







15:00 - 15:30 Demos & Posters (Chair: Sven Casteleyn)

Festsaal

Short Presentations (cf. p. 32)

15:30 - 16:00 Coffee Break

Prechtlsaal

15:30 - 18:00 Demos & Posters 1

Prechtlsaal

Exhibition (cf. p. 32)

16:00 - 17:30 Web Services 1 (Chair: María José Escalona)

Festsaal

Engineering Autonomic Controllers For Virtualized Web Applications

Giovanni Toffetti, Alessio Gambi, Mauro Pezzè, and Cesare Pautasso

AWAIT: Efficient Overload Management for Busy Multi-tier Web Services under Bursty Workloads

Lei Lu, Ludmila Cherkasova, Vittoria de Nitto Personè, Ningfang Mi, and Evgenia Smirni

Normative Management of Web Service Level Agreements

Caroline Herssens, Stéphane Faulkner, and Ivan J. Jureta

16:00 - 18:00 Search (Chair: Cristóbal Arellano)

Böcklsaal

Searching Repositories of Web Application Models

Alessandro Bozzon, Marco Brambilla, and Piero Fraternali

A Flexible Rule-Based Method for Interlinking, Integrating, and Enriching User Data Erwin Leonardi, Fabian Abel, Dominikus Heckmann, Eelco Herder, Jan Hidders, and Geert-Jan Houben

Advancing Search Query Autocompletion Services with More and Better Suggestions Dimitrios Kastrinakis and Yannis Tzitzikas

 $Designing\ Service\ Marts\ for\ Engineering\ Search\ Computing\ Applications$

Alessandro Campi, Stefano Ceri, Andrea Maesani, and Stefania Ronchi

19:00 City Hall Reception

Rathaus (cf. p. 40)





09:00 - 10:30 Keynote 2 (Chair: Gustavo Rossi)

Festsaal

The Emerging Science of the Web and Why it is Important

Wendy Hall, University of Southampton, UK

10:30 - 11:00 Coffee Break

Prechtlsaal

10:30 - 12:30 Demos & Posters 1

Prechtlsaal

Exhibition (cf. p. 32)

11:00 - 12:30 Web Services 2 (Chair: Marco Winckler)

Festsaal

Combining Schema and Level-Based Matching for Web Service Discovery

Alsayed Algergawy, Richi Nayak, Norbert Siegmund, Veit Köppen, and Gunter Saake

Web Messaging for Open and Scalable Distributed Sensing Applications

Vlad Trifa, Dominique Guinard, Vlatko Davidovski, Andreas Kamilaris, and Ivan Delchev

On Actors and the REST

Janne Kuuskeri and Tuomas Turto

12:30 - 14:00 Lunch

Mensa (cf. p. 42)

14:00 - 15:30 Web 2.0 1 (Chair: Irene Garrigós)

Festsaal

Context-Aware Interaction Approach to Handle Users Local Contexts in Web 2.0

Mohanad Al-Jabari, Michael Mrissa, and Philippe Thiran

Rethinking Microblogging: Open, Distributed, Semantic

Alexandre Passant, John G. Breslin, and Stefan Decker

A Web-Based Collaborative Metamodeling Environment with Secure Remote Model Access

Matthias Farwick, Berthold Agreiter, Jules White, Simon Forster, Norbert Lanzanasto, and Ruth Breu

Thurs







14:00 - 15:30 Industry Papers 2 (Chair: Wieland Schwinger)

Böcklsaal

Customization Realization in Multi-tenant Web Applications: Case Studies from the Library Sector

Slinger Jansen, Geert-Jan Houben, and Sjaak Brinkkemper

Challenges and Experiences in Deploying Enterprise Crowdsourcing Service (Invited Talk) Maja Vukovic, Jim Laredo, and Sriram Rajagopal

Business Conversation Manager: Facilitating People Interactions in Outsourcing Service Engagements (Invited Talk)

Hamid R. Motahari-Nezhad, Sven Graupner, and Sharad Singhal

14:00 - 16:00 Demos & Posters 2

Prechtsaal

Exhibition (cf. p. 32)

15:30 - 16:00 Coffee Break

Prechtsaal

16:00 - 17:00 Web 2.0 2 (Chair: Giovanni Toffetti Carughi)

Festsaal

Carbon: Domain-Independent Automatic Web Form Filling Samur Araujo, Qi Gao, Erwin Leonardi, and Geert-Jan Houben

Scalable and Mashable Location-Oriented Web Services

Yiming Liu and Erik Wilde

16:00 - 17:00 Performance and Security (Chair: Massimo Tisi)

Böcklsaal

A Generic Proxy for Secure Smart Card-Enabled Web Applications

Guenther Starnberger, Lorenz Froihofer, and Karl M. Goeschka

Efficient Term Cloud Generation for Streaming Web Content

Odysseas Papapetrou, George Papadakis, Ekaterini Ioannou, and Dimitrios Skoutas

18:15 Conference Banquet

Gloriette (cf. p.40)





09:00 - 10:30 Development Process 2 (Chair: Juan Carlos Preciado)

Festsaal

Deriving Vocal Interfaces from Logical Descriptions in Multi-device Authoring Environments

Fabio Paternò and Christian Sisti

Quality, Quality in Use, Actual Usability and User Experience as Key Drivers for Web Application Evaluation

Philip Lew, Luis Olsina, and Li Zhang

Interfaces for Scripting: Making Greasemonkey Scripts Resilient to Website Upgrades Oscar Díaz, Cristóbal Arellano, and Jon Iturrioz

09:00 - 10:30 Linked Data (Chair: Marco Brambilla)

Böcklsaal

Toward Approximate GML Retrieval-based on Structural and Semantic Characteristics Joe Tekli, Richard Chbeir, Fernando Ferri, and Patrizia Grifoni

Ranking the Linked Data: The Case of DBpedia

Roberto Mirizzi, Azzurra Ragone, Tommaso Di Noia, and Eugenio Di Sciascio

Linkator: Enriching Web Pages by Automatically Adding Dereferenceable Semantic Annotations

Samur Araujo, Geert-Jan Houben, and Daniel Schwabe

09:00 - 11:00 Demos & Posters 2

Prechtlsaal

Exhibition (cf. p. 32)

10:30 - 11:00 Coffee Break

Prechtlsaal

11:00 - 12:00 Keynote 3 (Chair: Boualem Benatallah)

Festsaal

Requirements Engineering in the Days of Social Computing

John Mylopoulos, University of Trento, Italy

12:00 - 12:30 Closing Ceremony

Festsaal

12:30 - 14:00 Lunch

Mensa (cf. p. 42)

Friday





DEMOS & POSTERS

SHORT PRESENTATIONS

Wednesday, 15:00-15:30, Festsaal

EXHIBITION

Demos & Posters 1

Wednesday, 15:30 - 18:00, and Thursday, 10:30 - 12:30 Prechtlsaal, where also coffee is served

Tools for Modeling and Generating Safe Interface Interactions in Web Applications

Marco Brambilla, Jordi Cabot, and Michael Grossniklaus

Linking Related Documents: Combining Tag Clouds and Search Queries

Christoph Trattner and Denis Helic

GAmera: a Tool for WS-BPEL Composition Testing using Mutation Analysis

Juan José Domínguez-Jiménez, Antonia Estero-Botaro, Antonio García-Domínguez, and Inmaculada Medina-Bulo

Open, Distributed and Semantic Microblogging with SMOB

Alexandre Passant, John G. Breslin, and Stefan Decker

The ServFace Builder - A WYSIWYG Approach for Building Service-based Applications

Tobias Nestler, Marius Feldmann, Gerald Hübsch, André Preußner, and Uwe Jugel

Extracting Client-side Web User Interface Controls

Josip Maras, Maja Stula, and Jan Carlson

Applying Semantic Web Technology in a Mobile Setting: The Person Matcher

William Van Woensel, Sven Casteleyn, and Olga De Troyer

Demos & Posters 2

Thursday, 14:00 - 16:00, and Friday, 09:00 - 11:00 Prechtlsaal, where also coffee is served

Syncro - Concurrent Editing Library for Google Wave

Michael Goderbauer, Markus Goetz, Alexander Grosskopf, Andreas Meyer, and Mathias Weske

An Eclipse Plug-in for Model-Driven Development of Rich Internet Applications

Santiago Meliá, Jose-Javier Martínez, Sergio Mira, Juan Antonio Osuna, and Jaime Gómez

A Cross-Platform Software System to Create and Deploy Mobile Mashups

Sandra Kaltofen, Marcelo Milrad, and Arianit Kurti

A Blog-centered IPTV Environment for Enhancing Contents Provision, Consumption, and Evolution

In-Young Ko, Sang-Ho Choi, and Han-Gyu Ko

Factic: Personalized Exploratory Search in the Semantic Web

Michal Tvarožek and Mária Bieliková

Takuan: a Tool for WS-BPEL Composition Testing using Dynamic Invariant Generation

Manuel Palomo-Duarte, Antonio García-Domínguez, Inmaculada Medina-Bulo, Alejandro Alvarez Ayllón, and Javier Santacruz

INDUSTRIAL EXHIBITION







Wednesday to Friday from 9 a.m. onwards, Prechtlsaal



MICROSOFT http://www.microsoft.com/

BOC http://www.boc-group.com/





SPARXSYSTEMS http://www.sparxsystems.de/

PLUG-IT http://www.plug-it-project.eu/





WEBRATIO http://www.webratio.com/

WOODAPPLES
http://tisco.at/





IKANGAI http://www.ikangai.com/

EXPRESSFLOW http://expressflow.com/





INTEGRANOVA http://www.integranova.at/

SPRINGER-VERLAG http://www.springer.com/





NETURAL COMMUNICATION http://www.netural.com/

GENTICS http://www.gentics.com/





UNIQUE COMPUTING SOLUTIONS http://www.ucs.at/



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Rossi Gustavo, National University of La Plata, Argentina Schrefl Michael, Johannes Kepler University Linz, Austria

Welland Ray, University of Glasgow, UK

White Bebo, Stanford Linear Accelerator Center, USA

Wilde Erik, UC Berkeley, USA



USEFUL INFORMATION

ADDRESS & CONTACTS

ICWE 2010 takes place at the Vienna University of Technology.

VENUE ADDRESS:

Vienna University of Technology Karlsplatz 13 A-1040 Vienna, Austria

CONTACT ADDRESS:

ICWE 2010

Vienna University of Technology Institute of Software Technology and Interactive Systems Favoritenstraße 9-11/188-3 1040 Vienna, Austria

phone: +43 (1) 58801-18804 (secretary)

+43 (1) 58801-18896 fax: e-mail: office@big.tuwien.ac.at

orga@icwe2010.webengineering.org

IMPORTANT NUMBERS

■ Emergency Telephone Number: 112

Organizer's Number: +43 (1) 58801-18804

TOURIST INFORMATION

The tourist information can be contacted by

phone: +43 810 10 18 18 e-mail: urlaub@austria.info www: www.austria.info

PHOTOCOPYING

If you leave the conference building through the main entrance and head down left you will find a copy shop around the corner on the left hand side. The price for one black/ white copy is 8 cent.

INTERNET ACCESS

Wireless LAN internet access will be provided free of charge in the conference building. The login information is handed out with the conference bag upon registration. Additionally, the computers in the internet rooms can be used.

COFFEE BREAKS

During the coffee breaks from 10:30 - 11:00 and 15:30 -16:00 coffee and refreshments as well as small snacks are provided.

LUNCH

Lunch is served from 12:30 - 14:00 at the Mensa in the Freihaus (cf. p. 42). Lunch coupons are handed out with the conference bag upon registration. Make sure you bring your lunch coupons to the Mensa.

SMOKING

Smoking is prohibited in all Austrian public buildings. Therefore it is only possible to smoke outside the conference building.

TAXI

To request a taxi, please, call one of the following numbers:

- +43 1 60 160
- +43 1 40 100
- +43 1 31 300

ACCOMPANYING PERSONS

Accompanying persons are entitled to visit the Exhibitions, Demos and Posters, and Evening Receptions on Monday and Tuesday. Additional tickets for the City Hall Reception and for the Conference Banquet may be bought on-site at the registration desk.

TRANSPORTATION

Tickets for public transportation can be purchased at the ticket machines at the metro stations. Prices are:

Single trip ticket: € 1,80 € 5,70 24 hour ticket: One week ticket: € 14,00

REGISTRATION



REGISTRATION

The registration and information desk will be open Monday to Wednesday from 8:00 - 18:00, Thursday from 8:00 - 17:00, and Friday 8:00 - 12:30. On-site registration is available. The registration area is situated Monday and Tuesday in the "Foyer" on the first floor and from Wednesday to Friday in the front hall of the "Prechtlsaal" on the ground floor (cf. p. 43).

The registration fee includes:

2 DAYS

- Workshops
- **■** Tutorials
- Doctoral Consortium
- Educators' Day
- Coffee breaks, Lunches, Evening Receptions (2 days)

3 DAYS

- Main Conference
- Conference Proceedings
- Coffee Breaks, Lunches (3 days)
- City Hall Reception (Wednesday evening)
- Banquet (Thursday evening)

5 DAYS

- Workshops
- **■** Tutorials
- Doctoral Consortium
- Educators' Day
- Main Conference
- Conference Proceedings
- Coffee Breaks, Lunches (5 days)
- Evening Receptions (Monday, Tuesday)
- City Hall Reception (Wednesday evening)
- Banquet (Thursday evening)

Note: Student Fees do NOT include conference proceedings and banquet participation.



WELCOME RECEPTION

MONDAY, 18:00 KUPPELSAAL, TU VIENNA

On Monday, July 5th 2010, all conference participants are cordially invited to attend the Welcome Reception in the Kuppelsaal in the main building of the Vienna University of Technology. The building at Karlsplatz 13, built in the classicistic style according to plans of the Hofbaudirektion, has been the home of the TU Vienna since 1818. It is the oldest university building in Vienna still serving its original purpose.



GET TOGETHER

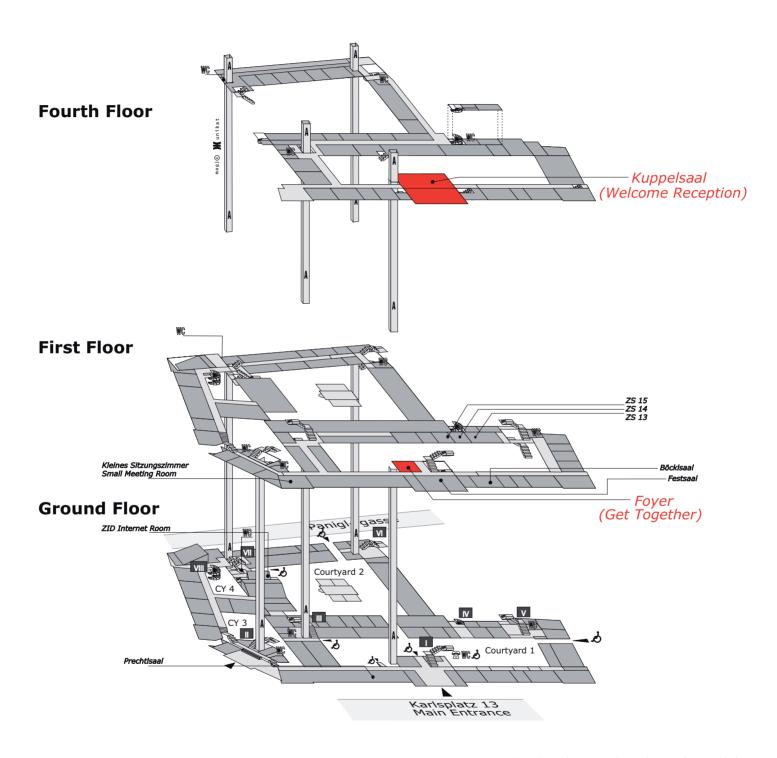
TUESDAY, 18:00 FOYER, TU VIENNA

On Tuesday, July 6th 2010, all conference participants are cordially invited to attend the Get Together in the Foyer in the main building of the Vienna University of Technology.





Main Building Vienna University of Technology





Social Events (Monday and Tuesday)

Number of Staircase

HS Hörsaal - Lecture Hall

ZS Zeichensaal - Classroom for Drawing

A Aufzug - Elevator



CITY HALL RECEPTION

WEDNESDAY, 19:00 CITY HALL VIENNA (RATHAUS)

On Wednesday, July 7th 2010, all main conference participants are cordially invited to attend the City Hall (Rathaus) Reception. The City Hall is one of the most beautiful buildings in Vienna, which serves as the seat of both the mayor and the city council of the city of Vienna. It was designed by Friedrich von Schmidt and built between 1872 and 1883. The distinctive Gothic style of the City Hall with its magnificent and fabulous halls provides the perfect setting for the conference's reception.



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How to reach the City Hall from the main building of the TU Vienna (cf. next page)

- Per pedes (approx. 30 min)
- U2 from Karlsplatz to Rathaus (direction "Stadion") (approx. 15 min)

CONFERENCE BANQUET

THURSDAY, 18:15 GLORIETTE (SCHÖNBRUNN)

An unforgettable evening in the Gloriette of the Schönbrunn Palace awaits you on Thursday, July 8th 2010. All main conference participants are cordially invited to attend the conference banquet. The Schönbrunn Palace is one of the most important cultural monuments in the country. The palace and its surrounding gardens illustrate the tastes, interests, and aspirations of successive Habsburg monarchs. The Gloriette was used as a dining hall and festival hall for emperor Franz Joseph I. You would not want to miss the impressive view over Vienna while enjoying the dinner.



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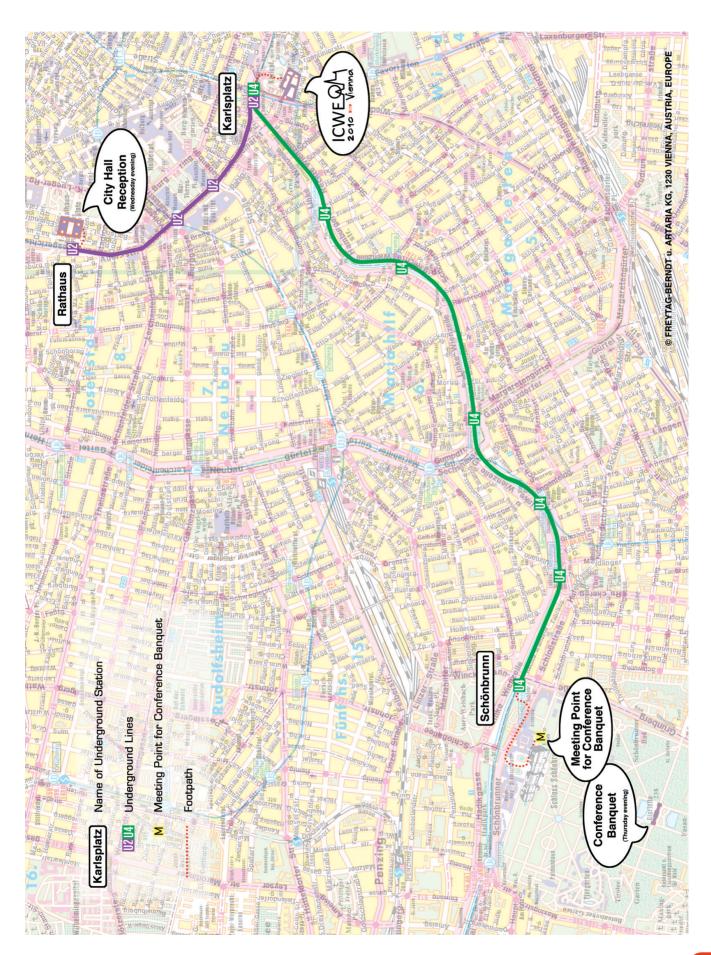
How to reach the Gloriette from the main building of the TU Vienna (cf. next page)

■ U4 from Karlsplatz to Schönbrunn (direction "Hütteldorf") and a few steps to the meeting point next to the main building of Schönbrunn Palace (approx. 30 min), where we meet at 18:15

Coming back to the main building of the TU Vienna

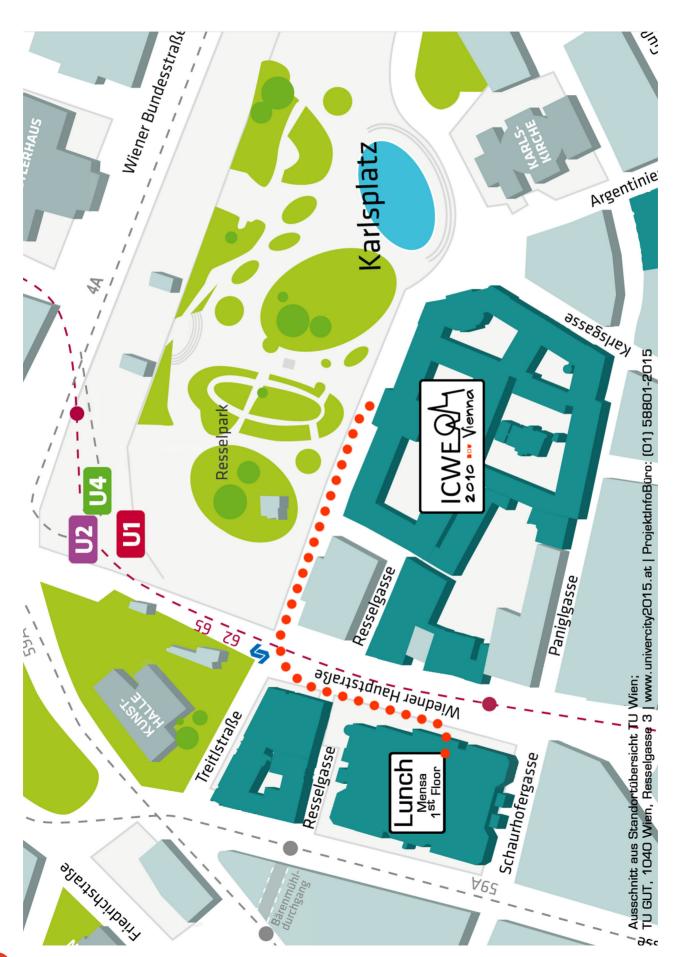
■ Bus transfer organized by the ICWE 2010 (around 22:30)







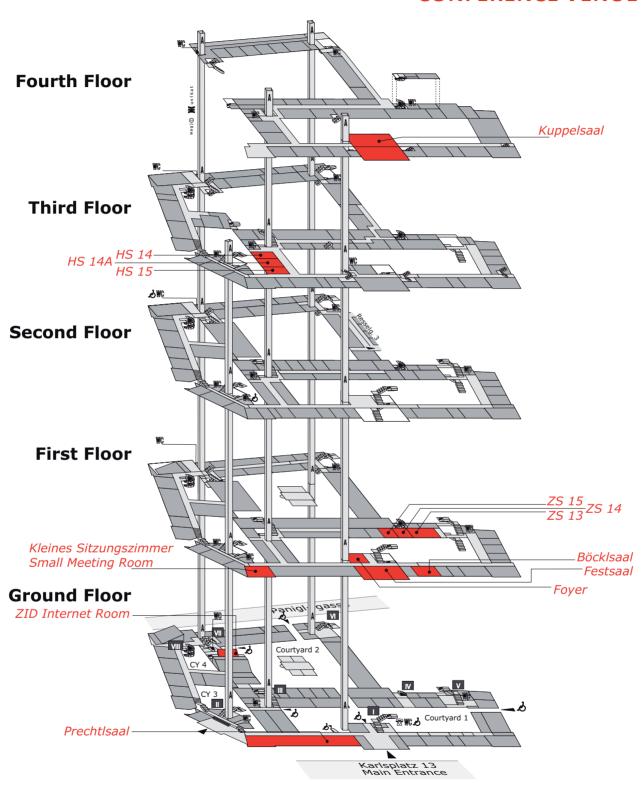
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CONFERENCE VENUE

















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