14th International Conference on Web Engineering

"Engineering the Web for users, developers and the crowd"

Toulouse, France - July 1-4, 2014

http://icwe2014.webengineering.org/

Conference Program

Location and venues

The conference venue of **ICWE 2014** is the **University Capitole** (Toulouse 1/UT1, campus Arsenal) which is located in the city center at **2 Rue du Doyen-Gabriel-Marty**. The University Toulouse Capitole is easily reached by Subway (line B, "*Compans Cafarelli*" station).

All tracks will be held inside the main building of the Campus Arsenal. Parallel sessions occur in the amphitheaters *Pierre-Hébrauds (amphi B)* and *Pierre-Raynaud (amphi D)* as indicated in the program. The demo and posters will be displayed at the *main hall* "*Salle des Pas perdus" next* to the coffee breaks and the registration desk. Lunch breaks are served at the CROUS restaurant which is just behind the gardens.
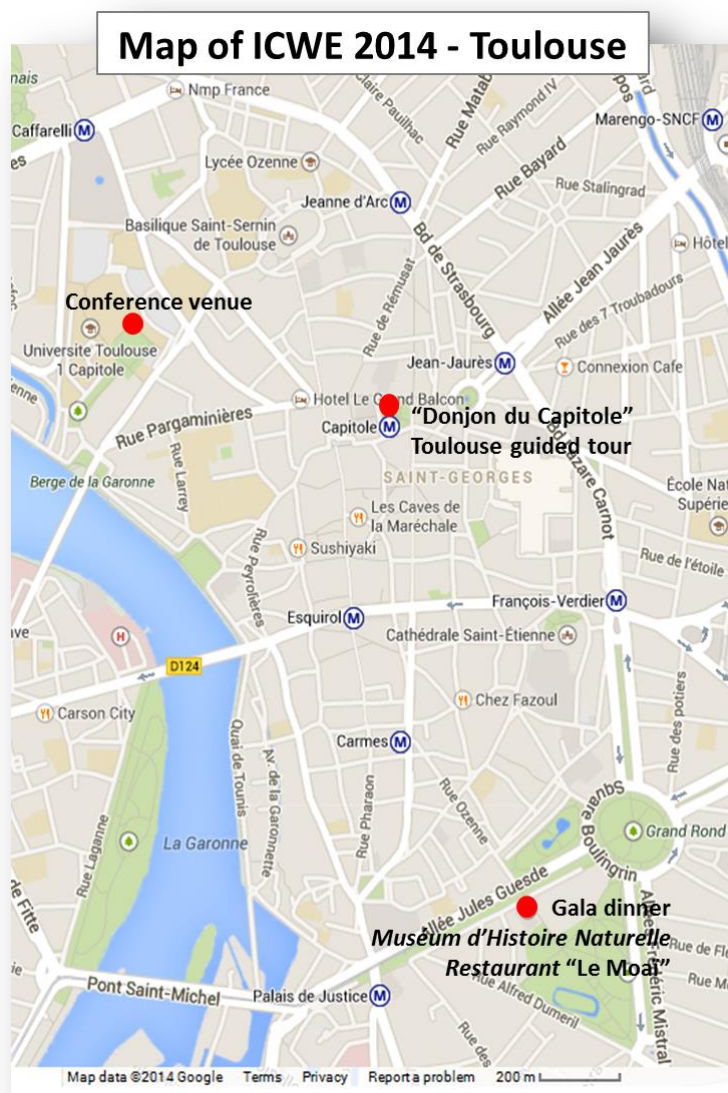
Social events

Tuesday July 1st 2014: **Guided tour in Toulouse historical center** from 18h-19h. The walking tour starts from the "Donjon du Capitole, Office de tourisme" which is just behind the Capitole place and next to the Metro station Capitole.

Wednesday July 2nd 2014: **Welcome reception** will occur in the gardens of the **University Capitole**.

Thursday July 3rd 2014: The **gala dinner** will be held in the **restaurant "***Le Moaï***"** which is placed in the gardens of the *"Muséum d'Histoire Naturelle" 35 Allée Jules Guesde*. To reach the place, take the Metro line B direction Ramonville, stop at station "Palais de Justice", and walk 300 meters towards the "Grand Rond". At this occasion prizes will be given to best papers and posters.

Friday July 4th 2014: The departure for the visit of **Airbus Assembly line** on Friday 4 of July will occur immediately after lunch time. Busses will be waiting in front of the University Capitole. The visit will take about 3 hours including the time transfer from the University. Passports will be asked for identity check prior to the visit, so don't forget to bring it with you. In the way back, busses will make a first stop at the Toulouse Airport (for drop those people travelling in the end of the day) and then drive to downtown stopping nearby the metro train station "*Jean Jaurès*" which is in the very city center.

Day 1 – Tuesday, July 1st 2014

08h00 – 09h00	Registration

09h00 – 12h30 DUI Workshop *(amphi B)* and **Web of Things tutorial** *(amphi D)*

10h30 – 11h00 *Coffee break*

12h30 – 14h00	Lunch

14h00 – 17h30 DUI Workshop *(amphi B)* and **IFML tutorial** *(amphi D)*

15h30 – 16h00 *Coffee break*

18h00 – 19h0   Social event: Guided tour of Toulouse historical center. Departure from the "Donjon du Capitole".

Day 2 – Wednesday, July 2nd 2014

08h00 – 09h00	Registration

09h00 – 09h10 Opening session (*Chair: Marco Winckler*) *(amphi B)*

09h10 – 10h30 Keynote "Social search" by **Marc Najork**, *Google, USA* (*Chair: Sven Casteleyn*)

> This talk discusses the interplay of "Social" and "Search". Social signals can be used to improve the relevance of algorithmic search results, and information retrieval techniques can be used to surface content from social networks. I will give an overview of the ways in which social content is used to improve the Bing search experience, and at a more abstract level will discuss how signals from a variety of social networks can be used to improve the user's experience in different task scenarios. I will also touch on some problematic aspects of leveraging social information, such as demographics of the user base and trustworthiness of postings.

10h30 – 11h00	Coffee break

11h00 – 12h30 Technical session I: Model-Driven Approaches for Engineering Web Applications *(amphi B)*
(*Chair: Manuel Wimmer*)

11h00 – 11h30 The Forgotten Many? A Survey of Modern Web Development Practices. *Moira C. Norrie, Linda Di Geronimo, Alfonso Murolo and Michael Nebeling*

11h30 – 12h00 Widget Classification with Applications to Web Accessibility. *Valentyn Melnyk, Vikas Ashok, Yury Puzis, Andrii Soviak, Yevgen Borodin and I.V. Ramakrishnan*

12h00 – 12h15 Improving the scalability of Model driven Web engineering approaches with runtime transformations. *Esteban Robles Luna, José Matías Rivero, Mario Matias Urbieta and Jordi Cabot*

12h15 – 12h30 **Demo & Poster Overview** (*Chairs: Jordi Cabot and Michael Nebeling*)

12h30 – 14h00	Lunch

14h00 – 15h30 Technical Session II: Social Web Applications (*Chair: Mária Bieliková*) *(amphi B)*

14h00 – 14h30 Finding Implicit Features in Consumer Reviews for Sentiment Analysis. *Kim Schouten and Flavius Frasincar*

14h30 – 15h00 CRAWL•E: Distributed Skill Endorsements in Expert Finding. *Sebastian Heil, Stefan Wild and Martin Gaedke*

15h00 – 15h30 Cross publishing 2.0: Letting users define their sharing practices on top of YQL. *Jon Iturrioz, Iker Azpeitia and Oscar Diaz*

15h30 – 16h00	Coffee break

16h00 – 18h00 Demo session and PhD poster session *(main hall)*

16h30 – 18h00 Technical Session III: Assessing Quality Web applications (*Chair: Luis Olsina*) *(amphi B)*

16h30 – 17h00 Analysis and Evaluation of Web Application Performance Enhancement Techniques. *Igor Jugo, Dragutin Kermek and Ana Mestrovic*

17h00 – 17h30 Identifying Root Causes of Web Performance Degradation using Changepoint Analysis. *Jürgen Cito, Dritan Suljoti, Philipp Leitner and Schahram Dustdar*

17h30 – 18h00 Ensuring Web Interface Quality Through Usability-based Split Testing.*Maximilian Speicher, Andreas Both and Martin Gaedke*

18h00 – 19h30: Social event – welcome reception

Day 3 – Thursday, July 3rd 2014

08h00 – 09h00 Registration

09h00 – 10h30 Keynote **"Wisdom of the Crowds or Wisdom of a Few**, by **Ricardo Baeza-Yates**, Yahoo! Labs   *(amphi B)*
(*Chair: Gustavo Rossi*)

The Web continues to grow and evolve very fast, changing our daily lives. This activity represents the collaborative work of the millions of institutions and people that contribute content to the Web as well as more than two billion people that use it. In this ocean of hyperlinked data there is explicit and implicit information and knowledge. But how is the Web? What are the activities of people? Web data mining is the main approach to answer these question. Web data comes in three main flavors: content (text, images, etc.), structure (hyperlinks) and usage (navigation, queries, etc.), implying different techniques such as text, graph or log mining. Each case reflects the wisdom of some group of people that can be used to make the Web better. For example, user generated tags in Web 2.0 sites. In this presentation we explore the impact of the wisdom of crowds in several dimensions such as bias, privacy and scalability. We also cover related concepts such as the long tail of the special interests of people, or the digital desert, content that nobody sees.

10h30 – 11h00 Coffee break

11h00 – 12h30 Technical session IV: **Approaches for developing and for assessing Web applications**   *(amphi B)*
(*Chair: Cinzia Cappiello*)

11h00 – 11h30 Pattern-Based Specification of Crowdsourcing Applications. *Alessandro Bozzon, Marco Brambilla, Stefano Ceri, Andrea Mauri and Riccardo Volonterio*

11h30 – 12h00 Using Path-Dependent Types to Build Type Safe JavaScript Foreign Function Interfaces. *Julien Richard-Foy, Olivier Barais and Jean-Marc Jézéquel*

12h00 – 12h30 Evaluating Mobileapp Usability: A Holistic Quality Approach. *Luis Olsina, Lucas Santos and Philip Lew*

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11h00 – 12h30 Technical session V: Users features and social behavior in Web applications   *(amphi D)*
(*Chair: Flavius Frasincar*)

11h00 – 11h30 An Empirical Study on Categorizing User Input Parameters for User Inputs Reuse. *Shaohua Wang, Ying Zou, Bipin Upadhyaya,Iman Keivanloo and Joanna Ng*

11h30 – 11h45 Tamper-Evident User Profiles for WebID-based Social Networks. *Stefan Wild, Falko Braune, Dominik Pretzsch, Michel Rienäcker and Martin Gaedke*

11h45 – 12h00 Effectiveness of Incorporating Follow Relation into Searching for Twitter Users to Follow. *Tomoya Noro and Takehiro Tokuda*

12h00 – 12h15 Driving Global Team Formation in Social Networks to Obtain Diversity. *Francesco Buccafurri, Gianluca Lax, Serena Nicolazzo, Antonino Nocera and Domenico Ursino*

12h15 – 12h30 Design Criteria for Web Applications Adapted to Emotions. *Giulio Mori, Fabio Paternò and Ferdinando Furci*

12h30 – 14h00 Lunch

14h00 – 15h30 Technical Session VI: Parsing, Searching & Crawling Web applications *(Chair: In-Young Ko)*   *(amphi B)*

14h00 – 14h30 StreamMyRelevance! Prediction of Result Relevance from Real-Time Interactions and its Application to Hotel Search. *Maximilian Speicher, Sebastian Nuck, Andreas Both and Martin Gaedke*

14h30 – 15h00 Indexing Rich Internet Applications Using Components-Based Crawling. *Ali Moosavi, Salman Hooshmand, Sara Baghbanzadeh, Guy-Vincent Jourdan, Gregor V. Bochmann and Iosif Viorel Onut*

15h00 – 15h30 SSUP – A URL-based method to entity-page discovery. *Edimar Manica, Renata Galante and Carina F. Dorneles*

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14h00 – 15h30 Tutorial: Mashups: a Journey from Concepts and Models to the Quality of Applications   *(amphi D)*

15h30 – 16h00 Coffee break

16h00 – 17h45 Technical Session VII: User interface design *(Chair: Oscar Diaz)* *(amphi B)*

16h00 – 16h30 Identifying Patterns in Eyetracking Scanpaths in Terms of Visual Elements of Web Pages. *Sukru Eraslan,Yeliz Yesilada and Simon Harper*

16h30 – 16h45 An Exploratory Study on the Relation between User Interface Complexity and the Perceived Quality of Android Applications. *Seyyed Ehsan Salamati Taba, Iman Keivanloo, Ying Zou, Joanna Ng and Tinny Ng*

16h45 – 17h00 Beyond Responsive Design: Adaptation to Touch and Multitouch. *Michael Nebeling and Moira C. Norrie*

17h00 – 17h30 Visual vs. DOM-based Web Locators: An Empirical Study. *Maurizio Leotta, Diego Clerissi, Filippo Ricca and Paolo Tonella*

17h30 – 17h45 X-Themes: Supporting Design-by-Example. *Moira C. Norrie, Michael Nebeling, Linda Di Geronimo and Alfonso Murolo*

16h00 – 17h30 Tutorial: Mashups: a Journey from Concepts and Models to the Quality of Applications *(amphi D)*

20h00 Social event – Gala dinner

Restaurant "*Le Moaï*", gardens of the *"Muséum d'Histoire Naturelle" 35 Allée Jules Guesde*, Metro Line B station "*Palais de Justice".*

Day 4 – Friday, July 4th 2014

09h00 – 10h30 Technical Session VIII: Web applications Composition *(Chair: Moira Norrie)* *(amphi B)*

09h00 – 09h30 SmartComposition: A Component-Based Approach for Creating Multi-Screen Mashups. *Michael Krug, Fabian Wiedemann and Martin Gaedke*

09h30 – 10h00 From Choreographed to Hybrid User Interface Mashups: A Generic Transformation Approach. *Alexey Tschudnowsky, Stefan Pietschmann, Matthias Niederhausen, Michael Hertel and Martin Gaedke*

10h00 – 10h30 A Platform for Web Augmentation Requirements Specification. *Diego Firmenich, Sergio Firmenich, Jose Matías Rivero and Leandro Antonelli*

10h30 – 11h00 Coffee break

11h00 – 12h15 Technical session IX: Services and Composition *(Chair: Cesare Pautasso)* *(amphi B)*

11h00 – 11h15 Multi Matchmaking Approach for Semantic Web Services Selection based on Fuzzy Inference. *Zahira Chouiref, Karim Benouaret, Allel Hadjali and Kader Belkhir*

11h15 – 11h30 (De-)Composing Web Augmenters. *Sergio Firmenich, Irene Garrigós and Manuel Wimmer*

11h30 – 11h45 Semantic Mediation Techniques for Composite Web Applications. *Carsten Radeck, Gregor Blichmann, Oliver Mro and Klaus Meißner*

11h45 – 12h00 Composing JSON-based Web APIs. *Javier Luis Canovas Izquierdo and Jordi Cabot*

12h00 – 12h15 Standard-based Integration of W3C and GeoSpatial Services: Quality Challenges. *Michela Bertolotto, Pasquale Di Giovanni, Monica Sebillo and Giuliana Vitiello*

12h15 – 12h30 Closing session: Wrap-up and advertisement of ICWE 2015!

12h30 – 14h00 Lunch

14h00 – 17h00 Visit of Airbus Assembly Line

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WORKSHOP ....*(amphi B)*

4ᵗʰ Workshop on Distributed User Interfaces and Multimodal Interaction   *(Tuesday, July 1ˢᵗ 2014, 9h-17h30)*

This Workshop is the fourth in a series on Distributed User Interfaces. On this occasion, the workshop is focused on Distributed User Interfaces and Multimodal interaction. The main goal is to join together people working in extending the Web and other user interfaces to allow multiple modes of interaction such as GUI, TUI, Speech, Vision, Pen, Gestures, Haptic interfaces, etc. Multimodal interaction poses the challenge of transforming the way we interact with applications, creating new paradigms for developers and end-users. In a multi-device environment, we can find coupled displays, multi-touch devices, interactive table-tops, tablets, tangible user interfaces, eWatchs, etc., and this diversity of devices offers new possibilities and makes multi-modal interaction even more challenging. Through active group discussion, partici-pants will have the chance to share their knowledge and experience to advance in this field.

Workshop organizers: María D. Lozano, José A. Gallud, Víctor M.R. Penichet, Ricardo Tesoriero, Jean Vanderdonckt, Habib Fardoun, Abdulfattah S. Mashat

TUTORIALS .... *(amphi D)*

Web of Things: Concepts, technologies and applications for connecting physical objects to the Web

(Tuesday, July 1ˢᵗ 2014, 9h-12h30)

Inter-communicating devices and integrated Web-based services will open exciting opportunities. The idea of a world where everything is connected is becoming a reality, as hardware and software evolves to provide the neces-sary infrastructure to connect any physical device and objects to the Web. The goal of this tutorial is to present an overview on the advances in the Web of Things initiative. It will cover the key ideas behind the concept, how it works, infrastructure, as well as present the attendees with ideas and frameworks on how to build applications on top of it. The tutorial will have a practical ap-proach and is open to both academia and industry attendees with interest in technologies and applications to interconnect physical objects to the Web. Knowledge of the architecture of the Web (e.g SOA, REST) and basic under-standing of Web technologies (e.g. URIs, HTML, Javascript) are encouraged but not necessary to attend this tutorial.

Presenters: Iker Larizgoitia, Dominique Guinard, Vlad Trifa

IFML: Building the front end of Web and Mobile applications with OMG's Interaction Flow Modeling Language

(Tuesday, July 1ˢᵗ 2014, 14h-17h30)

This tutorial focuses on the Domain-specific Language (DSL) called IFML, which has been adopted as a standard by OMG in March 2013. The Interaction Flow Modeling Language (IFML) is designed for expressing content, user interaction and control behaviour of the front-end of software applications, as well as the binding to the persistence and business logic layers. IFML is the missing piece for modeling the front end of software applications and perfectly complements other modeling dimensions in broad system modeling projects. Therefore, IFML works best when integrated with other modeling languages in the MDA suite, such as UML and BPMN. This tutorial illustrates the basic concepts of IFML, presents the design best practices and integration with other modelling languages, and discusses some industrial experiences (also featuring quantitative measures of productivity) achieved by the companion tool WebRatio.

Presenter: Marco Brambilla

Mashups: a Journey from Concepts and Models to the Quality of Applications

(Thursday, July 3ʳᵈ 2014, 14h-17h30)

Today, it is unimaginable to develop modern Web applications without some form of reuse and integration of value-adding, third-party content or services, a task that is greatly facilitated by technologies like Web services, Open Data, XML, JSON, the RESTful architectural style, and many more. But which are the conceptual underpinnings of this practice? What are mashups? What does it mean to "mashup up" resources that can be accessed via the Web? Which are the paradigms adopted for the composition of mashups? What kinds of tools exist that aid this activity? And, eventually, what does it mean to develop "good" mashups? This tutorial aims to clarify these aspects and to provide insight into the constantly evolving mashup ecosystem. It discusses core definitions, overviews a representative set of mashup components (the resources to be integrated) and mashup models (how resources are integrated), illustrates composition paradigms supported by state-of-the-art mashup tools, and studies the quality of the resulting mashups from a user perspective. The goal of the tutorial is to introduce the audience to the topic and to show is applicability, benefits and limitations. This tutorial is open to researchers, practitioners, advanced students who want to learn more about mashup development from a perspective which especially privileges modeling abstractions, not only development practices.

Presenters: Cinzia Cappiello, Florian Daniel and Maristella Matera

POSTERS & DEMOS ....(main hall)

- A Tool for Detecting Bad Usability Smells in an Automatic Way.
  Julián Grigera, Alejandra Garrido and José Matías Rivero
- An extensible, Model-Driven and end-user centric approach for API building.
  José Matías Rivero, Sebastian Heil, Julián Grigera, Esteban Robles Luna and Martin Gaedke
- Building Bridges Between Diverse Identity Concepts Using WebID.
  Michel Rienäcker, Stefan Wild and Martin Gaedke
- Cross-Browser Testing in Browserbite.
  Tõnis Saar, Marlon Dumas, Marti Kaljuve and Nataliia Semenenko
- DireWolf Goes Pack Hunting: A Peer-to-Peer Approach for Secure Low Latency Widget Distribution Using WebRTC.
  István Koren, Jens Bavendiek and Ralf Klamma
- Easing Access for Novice Users in Multi-Screen Mashups by Rule-based Adaption.
  Philipp Oehme, Fabian Wiedemann, Michael Krug and Martin Gaedke
- Interactive Scalable Lectures with ASQ.
  Vasileios Triglianos and Cesare Pautasso
- LiquidML: A model based environment for developing high scalable Web applications.
  Esteban Robles Luna, José Matías Rivero and Matias Urbieta
- Managing and Monitoring Elastic Cloud Applications.
  Demetris Trihinas, Chrystalla Sofokleous, Nicholas Loulloudes, Athanasios Foudoulis, George Pallis and Marios D. Dikaiakos George Pallis and Marios D. Dikaiakos
- MAPMOLTY: a web tool for discovering place loyalty based on mobile crowdsource data.
  Vinicius Monterio de Lira, Salvatore Rinzivillo, Valeria Cesario Times, Chiara Renso and Patricia Tedesco
- Paving the Path to Content-centric and Device-agnostic Web Design.
  Maximilian Speicher
- Twiagle: a Tool for engineering applications based on instant messaging over Twitter.
  Ángel Mora Segura, Juan De Lara and Jesús Sánchez Cuadrado
- Using Linked Data for Modeling Secure Distributed Web Applications and Services.
  Falko Braune, Stefan Wild and Martin Gaedke
- WaPPU: Usability-based A/B Testing.
  Maximilian Speicher, Andreas Both and Martin Gaedke
- Webification of Software Development: User feedback for developer's modeling.
  Eduard Kuric and Maria Bielikova

PhD Students posters in display ....(main hall)

- Comparing Methods of Trend Assessment.
  Radek Malinsky, Ivan Jelınek
- Exploiting Diferent Bioinformatics Resources for Enhancing Content Recommendations.
  Abdullah Almuhaimeed and Maria Fasli
- Methodologies for the development of crowd and social-based applications?
  Andrea Mauri
- Using semantic techniques to improve service composition by end users.
  Giuseppe Desolda

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