



Final Programme



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**DET
OBELSKE
FAMILIEFOND**

Hotel Hvide Hus Aalborg



For registration, please visit: icwe2013.webengineering.org

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Welcome to ICWE 2013

The International Conference on Web Engineering (ICWE) aims to promote scientific and practical excellence in Web Engineering and to bring together researchers and practitioners working on all aspects regarding the engineering of Web-based software systems. The conference aims to advance the state-of-the-art of technologies, methodologies, programming languages, algorithms, models, protocols, tools, and metrics and specifically looks for excellent research contributions, cutting-edge engineering practices, and empirical insights.

ICWE 2013 will be held on July 8-12, 2013, in Aalborg, Denmark. It's going to be the 13th edition of the conference, after 12 successful editions in a row.

Thanks for coming and welcome to Aalborg and Denmark.



Peter Dolog
General Chair

ICWE 2013 Conference

Committee and Management

General Chair	Peter Dolog	Aalborg University, Denmark
Program Chairs	Florian Daniel	University of Trento, Italy
	Qing Li	City University of Hong Kong, China
ICWE Steering Committee Chairman		
	Geert-Jan Houben	TU Delft, The Netherlands
Workshop Chairs	Michael Sheng	University of Adelaide, Australia
	Jesper Kjeldskov	Aalborg University, Denmark
Tutorial Chairs	Maristella Matera	Politecnico di Milano, Italy
	Benjamin Satzger	Microsoft, USA
Industry Track Chairs	Erik Wilde	EMC Corporation, USA
	Cesare Pautasso	University of Lugano, Switzerland
PhD Symposium Chairs		
	Oscar Diaz	University of the Basque Country, Spain
	Marco Winckler	University Paul Sabatier, France
Web Chair	Martin Leginus	Aalborg University, Denmark
Local Arrangements	Hanne Christiansen	Visit Aalborg, Denmark
	Dorthe Nabe Nielsen	Visit Aalborg, Denmark



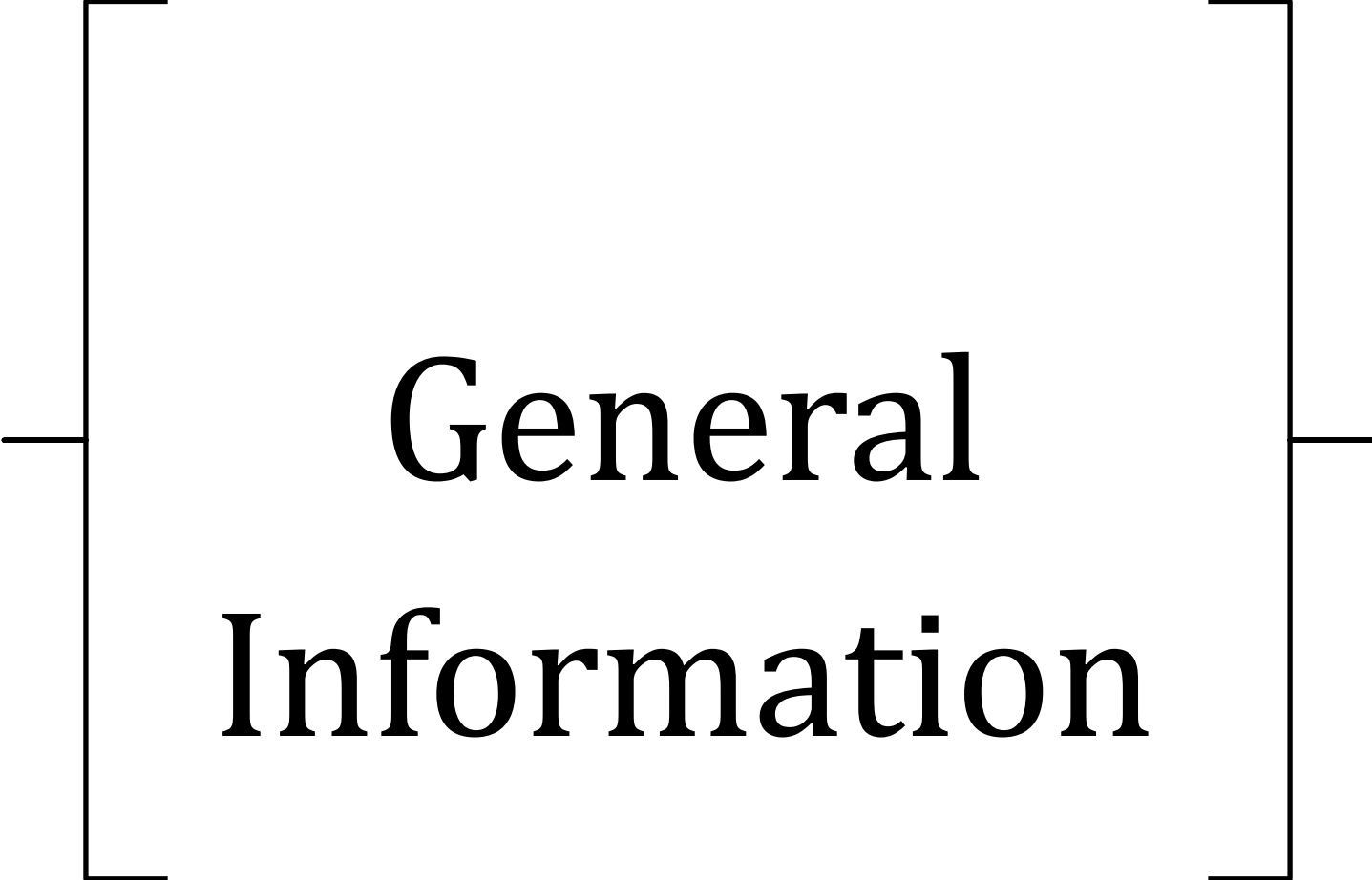
Programme at a glance

Programme at a glance

Monday				
8:30-9:00	Registration			
	QWE 2013 <u>Vintersalen</u> (1st floor)	DMSSW/SSN/CSE 2013 <u>Efteraarsalen</u> (1st floor)	T1: Enterprise Application Integration - the Cloud Perspective <u>Bøgesalen</u> (ground floor)	T2: An Introduction to Human Computation and Games With A Purpose' <u>Birkesalen</u> (ground floor)
9:00 - 10:30	Coffee (<u>Foraarsalen + Sommeresalen</u>)			
10:30 - 11:00				
	QWE 2013 <u>Vintersalen</u> (1st floor)	DMSSW/SSN/CSE 2013 <u>Efteraarsalen</u> (1st floor)	T1: Enterprise Application Integration - the Cloud Perspective <u>Bøgesalen</u> (ground floor)	T2: An Introduction to Human Computation and Games With A Purpose' <u>Birkesalen</u> (ground floor)
11:00 - 12:30	Lunch(<u>Restaurant on the 15 floor</u>)			
12:30 - 14:00				
	ComposableWeb 2013 <u>Vintersalen</u> (1st floor)	DMSSW/SSN/CSE 2013 <u>Efteraarsalen</u> (1st floor)	T3: Responsive Design and Development: Methods, Technologies and Current Issues <u>Bøgesalen</u> (ground floor)	T4: Current Challenges in Web Crawling <u>Birkesalen</u> (ground floor)
14:00 - 15:30	Coffee (<u>Foraarsalen + Sommeresalen</u>)			
15:30 - 16:00				
	ComposableWeb 2013 <u>Vintersalen</u> (1st floor)	DMSSW/SSN/CSE 2013 <u>Efteraarsalen</u> (1st floor)	T3: Responsive Design and Development: Methods, Technologies and Current Issues <u>Bøgesalen</u> (ground floor)	T4: Current Challenges in Web Crawling <u>Birkesalen</u> (ground floor)
16:00 - 18:00				
18:00 - 20:00				
20:00-23:00				

Programme at a glance

Tuesday		Wednesday		Thursday	Friday
Registration					
Welcome by P. Dolog & F. Daniel <u>Den Ny Kilden</u> <u>(2nd floor)</u>		Keynote by Sean Wang <u>Den Ny Kilde</u> <u>(2nd floor)</u> Poster short talks (from 10:00) <u>Den Ny Kilden</u> <u>(2nd floor)</u>		S4: Mashups and End User Development <u>Den Ny Kilde</u> <u>(2nd floor)</u>	S7: Navigation Analysis and Collaboration <u>Den Ny Kilde</u> <u>(2nd floor)</u>
Keynote by Wil van der Aalst <u>Den Ny Kilden</u> <u>(2nd floor)</u>					
Poster short talks (from 10:15) <u>Den Ny Kilden(2nd floor)</u>					
Coffee <u>(De Fire Aarstider 1st floor)</u>					
S1: Web Application Engineering <u>Den Ny Kilden</u> <u>(2nd floor)</u>		S3: Web Services and Cloud Computing <u>Den Ny Kilde</u> <u>(2nd floor)</u>	Emotions 2013 <u>Birkesalen</u> <u>(ground floor)</u>	S5: Component based user interfaces <u>Den Ny Kilde</u> <u>(2nd floor)</u>	S8: Semantic Data Search and Interlinking <u>Den Ny Kilde</u> <u>(2nd floor)</u>
Lunch <u>(Restaurant on the 15 floor)</u>		Lunch <u>(De Fire Aarstider 1st floor)</u>		Lunch <u>(Restaurant on the 15 floor)</u>	
Open Space Session: New ideas to improve future ICWE conferences <u>PARK center</u> <u>(ground floor)</u>		Poster/Demo/ PhD Symposium with lunch <u>De Fire Aarstider</u> <u>(1st floor)</u>	MDWE 2013 <u>Birkesalen</u> <u>(ground floor)</u>	Keynote by Jan Borchers <u>Den Ny Kilde</u> <u>(2nd floor)</u>	
Coffee <u>(De Fire Aarstider 1st floor)</u>					
S2: Web Information Retrieval <u>Den Ny Kilden</u> <u>(2nd floor)</u>	S6: Client-Server Programming and PhD symposium short talks <u>Birkesalen</u> <u>(ground floor)</u>	Industry papers <u>Den Ny Kilde</u> <u>(2nd floor)</u>	MDWE 2013 <u>Birkesalen</u> <u>(ground floor)</u>	S9: Crawling and Revisitation <u>Den Ny Kilde</u> <u>(2nd floor)</u>	
Welcome Reception (starts from 18:15)				Gala Dinner	



General Information

Hotel Hvide Hus

Conference Venue

The 13th International Conference on Web Engineering (ICWE 2013) will be held in Hotel Hvide Hus in Aalborg, North of Denmark. The hotel offers excellent facilities for the conference including the internet connection. Hotel Hvide Hus is located in the largest green spot of Aalborg - the beautiful Kildeparken in walking distance from charming pedestrians' streets which offers great shopping, cozy cafés, delightful entertainment, well-preserved buildings and modern architecture. Surrounded by the scenic park you will stay in style and comfort your stay in Aalborg. The hotel has 16 floors and a stunning view over the Limfjord and North Jutland's beautiful countryside. Hotel Hvide Hus has 198 tastefully decorated rooms, all with new bathroom and own balcony.



Address:

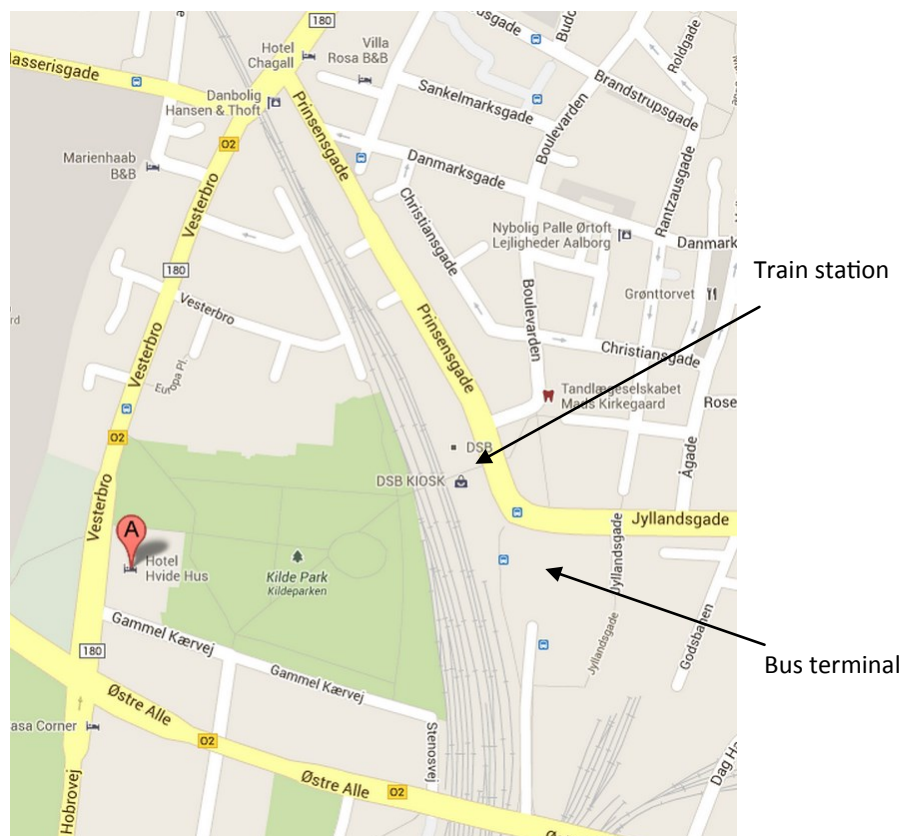
Hotel Hvide Hus

Vesterbro 2

DK-9000 Aalborg

Distance to the airport: 7 km

Distance to train station: 200 m



Registration and facilities + Maps

The registration desk is located on the ground floor of Hotel Hvide Hus and the opening hours are:

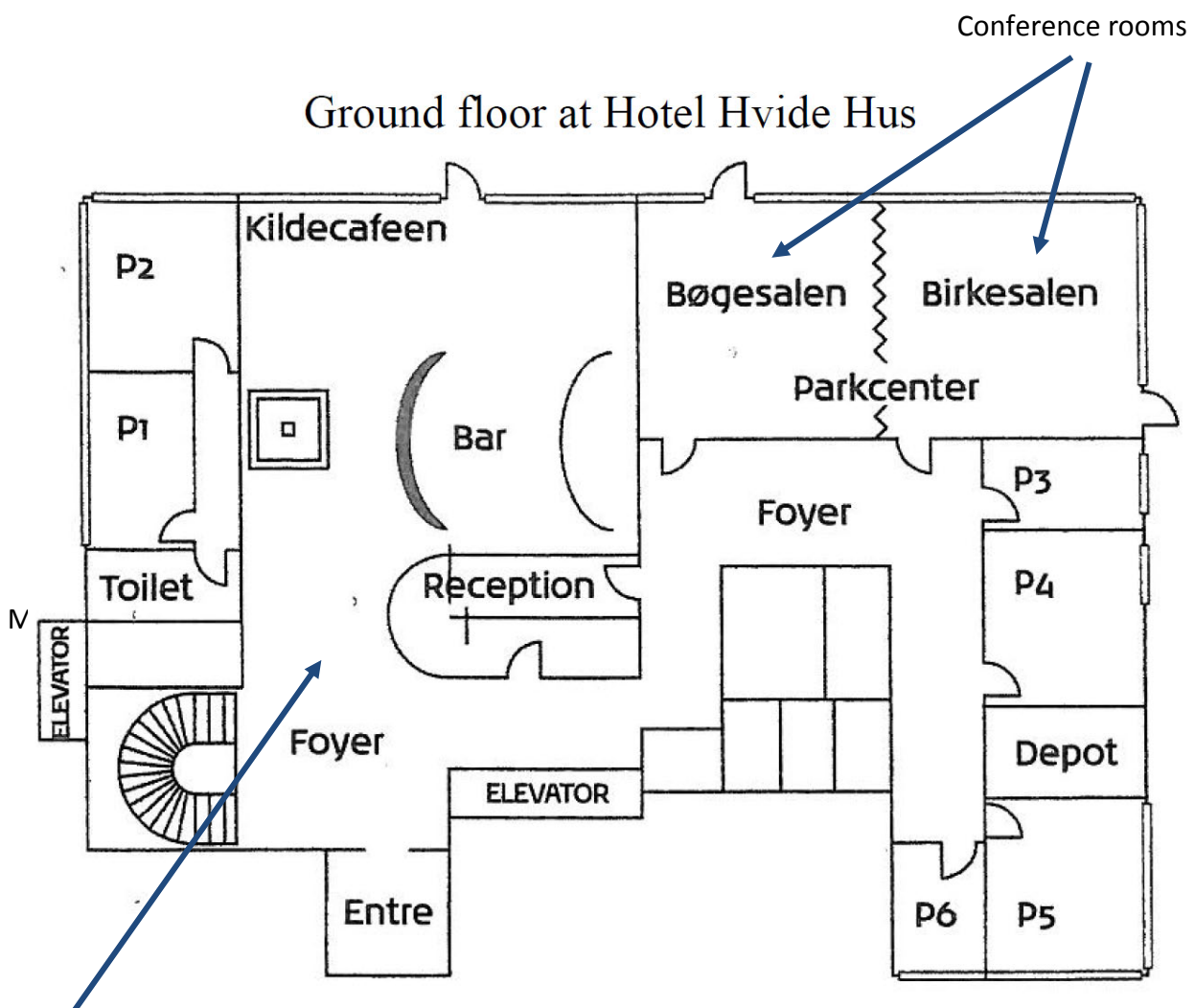
Monday, Tuesday: 8:30 — 9:00

Monday, Tuesday and Other days: during coffee breaks

In case you would like to register outside the opening hours feel free to contact local organizers: Peter Dolog, Ricardo Gomez Lage, Martin Leginus or Marcus Ast

Internet:

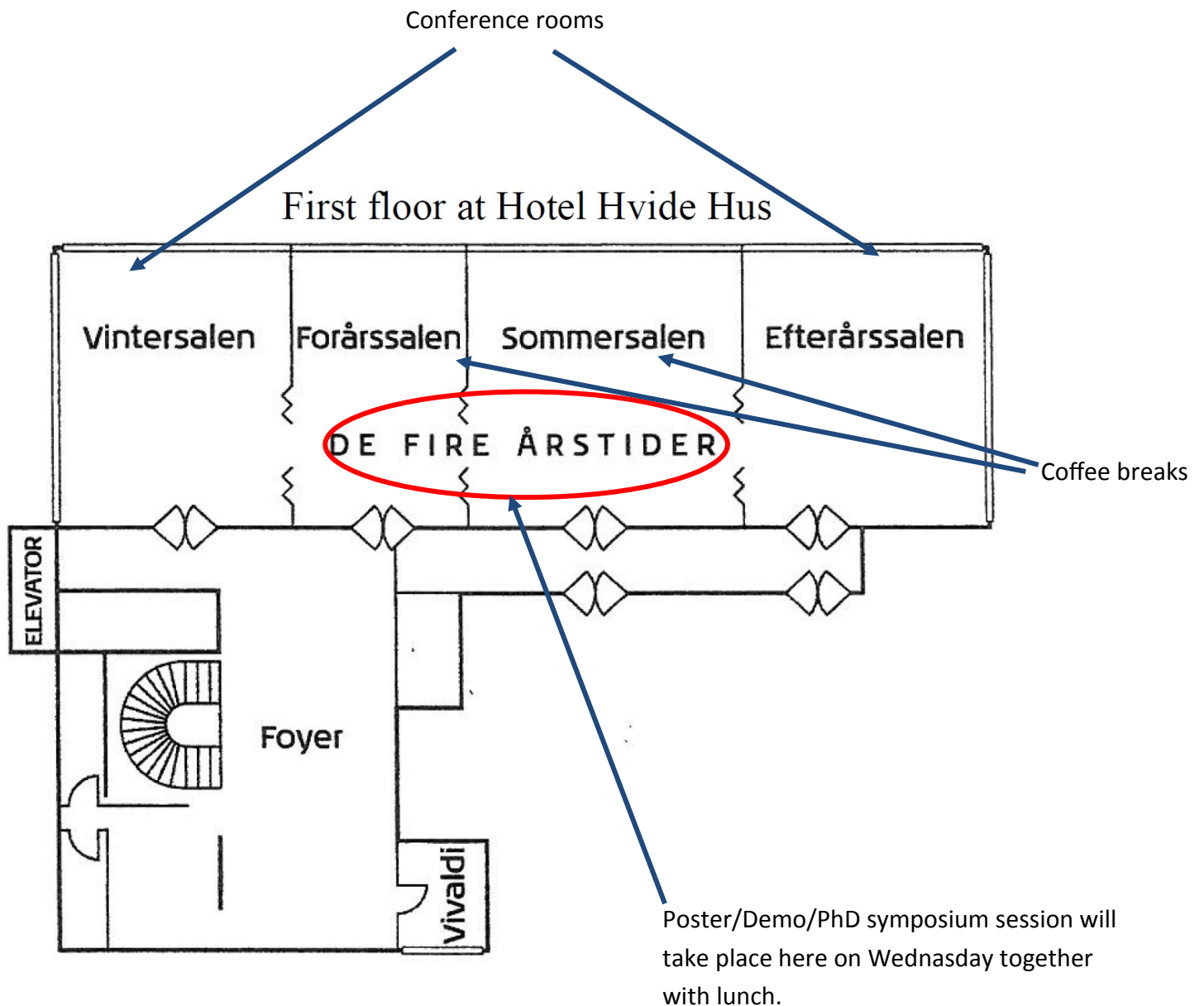
Free wireless internet access to the Helnan Hvide Hus network. The access password is web



Registration
Desk

At the Conference Center

Maps

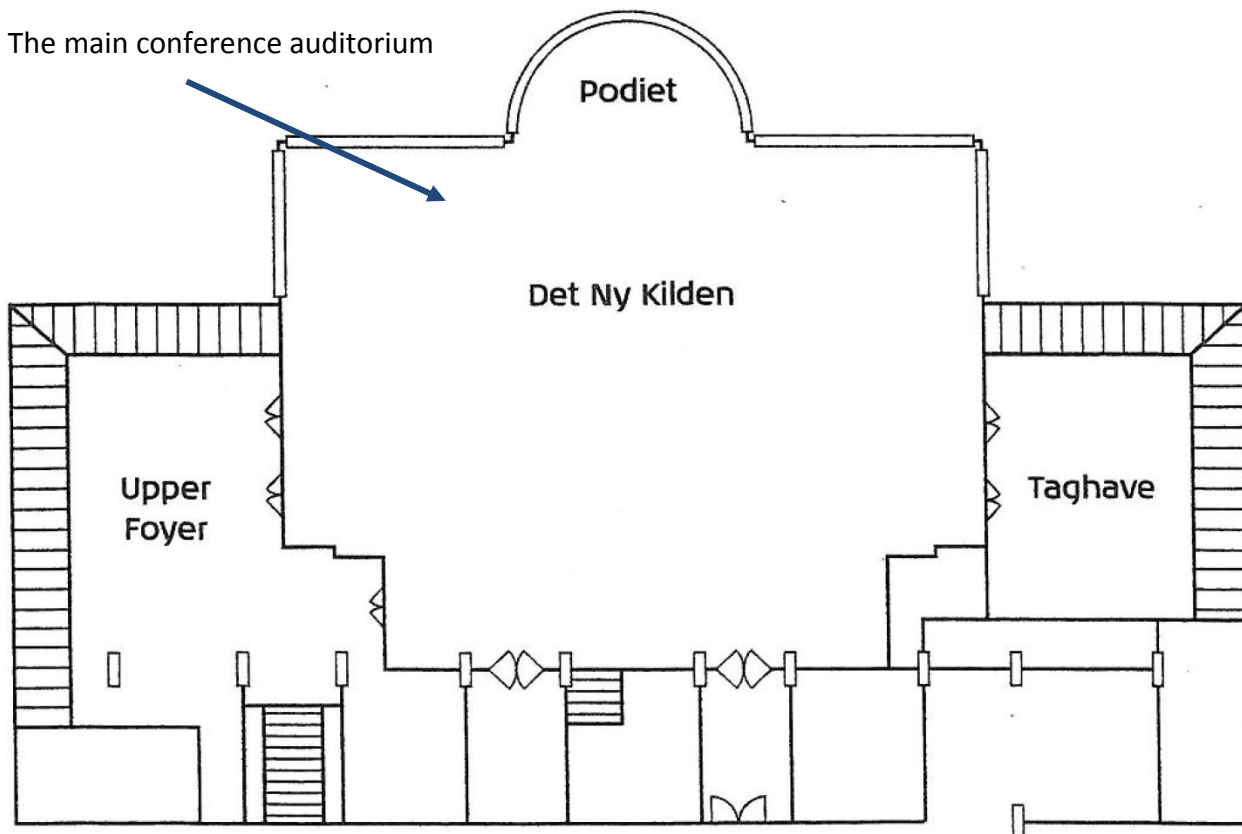


At the Conference Center

Maps

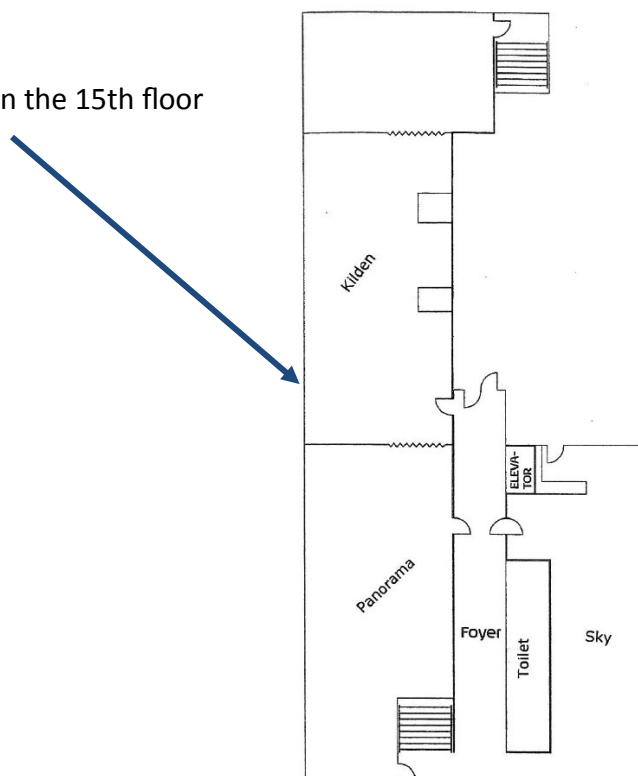
Second floor at Hotel Hvide Hus

The main conference auditorium



15th floor of Hotel Hvide Hus

Restaurant on the 15th floor



Author Instructions

For Oral Presentation

Presentation:

ICWE'2013 presenters are advised to come to the session room 15 minutes before the scheduled time of the session start in order to try to connect their laptop to the provided projector.

The length of the presentation is restricted to 30 minutes for long papers, 15 minutes for short papers including questions.

Official language:

The official language of the conference is English for presentations, discussion and conference activities.

Chairman Instruction:

Please be at the session room 15 minutes before start of the session.

Accommodation

Aalborg offers a wide range of accommodation facilities including options for students - 1,500 hotel rooms within comfortable walking distance of Aalborg Congress & Culture Centre. One hotel very close to the congress centre and there is a fine mix of international hotels and charming privately owned hotels.

Special conference rate

Please note that we as local organizers have picked out the most convenient and best hotels in advance for you to choose from. Booking through the registration link or through e-mail to VisitAalborg you will benefit from special rates and, at the same time, make sure that there is plenty of opportunity to network with your colleagues outside the conference programme.

Flexibility in your booking

It's also worth noticing; that you will not be required to pay for hotel accommodation in advance, and that changes in the booking will even be accepted until 2 days prior to arrival. You can make your hotel reservation in connection with your registration for the ICWE 2013. Doing this, you will benefit from the special conference rates.

Hotel reservation after registration

In case you have already registered and afterwards wish to make a hotel reservation, please feel free to contact us and we will help you do so – of course making sure that you will still benefit from the special conference rates.

Please contact us by phone or e-mail and inform us of your choice of hotel, date of arrival and departure, type of room, special requirements, etc. Payments are made directly to the hotel; however, a credit card guarantee is required in order for us to confirm your hotel reservation. Please use the link and fill in the form and fax it to us. As soon as we have made the reservation for you, we will send you a confirmation.

Contact information:

Dorthe Nabe Nielsen, Visit Aalborg

Kjellerups Torv 5, Level 13

9000 Aalborg, Denmark

Phone: +45 9931 7523 Email: dnn@aalborg.dk

Hotels

Cabinn Aalborg**

About:

Since October 2009, CABINN have welcomed guests at this modern economy-class hotel in the heart of Aalborg. CABINN's next-door neighbor is the new shopping centre Friis. The hotel has 239 rooms, all with private bath and toilet as well as phone, TV and a free wireless Internet. Many of Aalborg's excellent restaurants are only a 15-minute walk from the hotel, and a 5-minute walk will take you to the scenic waterfront and the two spectacular cultural centres Utzon and Nordkraft.

Address:

CABINN Aalborg
Fjordgade 20
9000 Aalborg
Denmark



Location:

Distance to the conference venue: 1500 m
Distance to the airport: 9 km
Distance to train station: 500 m

For more information on the hotel, please visit:

<http://www.cabinn.com/>

Travel Arrangements

For the airy - by plane

Beautifully situated in Northern Denmark, Aalborg is well connected in several ways. With an excellent internal air, rail and road network, getting to Aalborg has never been easier. Visitors from abroad will usually either connect through one of the three daily 85-minute flights directly from Amsterdam Schiphol that is very well connected worldwide with more than 200 destinations. Besides connecting through Amsterdam, international visitors can fly to Aalborg via Copenhagen Airport which has a virtual air bridge to Aalborg with more than 40 daily connecting flights and a flight time of only 35-minutes; you will have arrived to Aalborg.

In addition to the frequent daily connections to and from Copenhagen, Aalborg Airport has scheduled airline connections with Oslo in Norway, Helsinki in Finland, London in England, Amsterdam in the Netherlands, Malaga in Spain and the Faroe Islands during the summer.

For further information about flights to and from Aalborg see Aalborg Airport's website: <http://www.aal.dk/>

Airlines:

KLM

SAS

Norwegian

British Airways

Travel Arrangements

Alternatives to flights

By train or bus

In centre of the city close to conference venue you will find Aalborg's main railway and bus station. From here intercity trains between Copenhagen and Aalborg run on an hourly basis. For more information on the rail network within DK, visit the official carriers, www.dsb.dk

Nordjyllands Trafikselskab operates locally in the region and runs an extensive network of local buses in Aalborg. There are also long distance bus routes that link Aalborg with Copenhagen, Odense, Esbjerg and other major cities in Denmark as well as Europe, please visit www.rejseplanen.dk to arrange your travel. The site combines train, regional and city busses to provide you with the fastest and/or most convenient travel plan, <http://www.nordjyllandstrafikselskab.dk/default.aspx>

For the modern and ultra green

Arriving by plane you will find yourself at Aalborg Airport, only 10 minutes by bus and taxi from the city centre. Bus no. 2 leaves from the airport two times per hour and takes you to the city centre.

The bus fare is DKK 20 per person, danish cash only. Taxis are outside the terminal and will take you directly to your hotel. Price for taxi ride is DKK 180-300 depending on hotel destination. Contact details: +45 9810 1010.

Transport – bus and cabs

To and from Aalborg Airport, bus no. 2 takes you to the city centre in 10 mins

To and from your hotel as well as in the city, please visit Rejseplanen for bus schedules

Free bus rides during your stay, please visit AalborgCard

or feel free to call a cab +45 98101010 (Aalborg Taxi)

Nice to Know

While staying in Aalborg

For the one who wants to see the big picture

You will find a map of Aalborg that should provide you with an overview of where everything is situated in proportion to each other.

Map over the city of Aalborg, please scan the QR Code:

- Hotels
- Restaurants and cafés
- Shopping streets



For the cultural

During your stay, get a chance to explore the cultural vibe in Aalborg either by strolling down the newly established Harbourfront in the evening or exploring the inner city visiting its art museums and galleries. Please scan the QR code to visit the official Tourist Bureau's website VisitAalborg to get more information on:

- Attractions
- Activities
- Events etc.



For the shopaholic

With its abundance of shops Aalborg's high streets are an eldorado for anyone who loves to shop. But, whatever you do, don't miss the side streets. They are packed with exciting little shops selling the work of young designers and craftspeople. You never know what you'll find. The opening hours are:

Monday - Thursday:	10:00 - 17:30
Friday:	10:00 - 19:00
Saturday:	10:00 - 15:00
1st Sunday of the month:	11:00 - 15:00



Read more about shopping streets or about Friis Shopping Centre by scanning the QR Code. Friis Shopping Centre has longer opening hours than regular shops. Monday-Friday 10:00 - 19:00, Saturday 10:00 - 16:00, and 1st Sunday of the month: 10:00 - 16:00.

Nice to Know

While staying in Aalborg

For the thirsty

Need a beer after a day with lots of impressions? An Aalborg Beerwalk makes an agreeable finish to a busy day and a perfect start to a fun afternoon or evening in Aalborg. Reward yourself to an Aalborg Beerwalk and taste 6 well-poured, special beers in as many as six great pubs in the centre of Aalborg. The Aalborg Beerwalk consists of; an Aalborg Beerwalk tasting glass, vouchers for six samples of excellent beer, a guide to six charming handpicked pubs in Aalborg, and a lot of fun. At each pub simply present a voucher and they will pour you a sample in your very own Aalborg Beerwalk tasting glass.

- Aalborg Beerwalk, please visit Aalborg Beerwalk to read more about the concept <http://goo.gl/TRxBo>

For the Forest Gump

Even when staying in the city, beautiful oases of nature – perfect for a great work out – are never far away. A different experience awaits you, if you go for a run in Mølleparken during twilight. Here, you can follow a 2.5 km route lit up by lanterns.

- Please ask your hotel for inspiration

For the yuppies

Danish Kroner (DKK) is the currency in Denmark. Banks are open from 10:00 - 16.00 Monday to Friday. Though, in most hotels, restaurants, cafés and shops international credit cards are widely accepted.

For the generous

Tipping: In Denmark, tipping isn't common - all service bills that you receive already include gratuity, and it is unnecessary (but always appreciated) to add a tip in Denmark.

Nice to Know

While staying in Aalborg

For the meteorologist

Weather in Denmark varies with the seasons. Denmark has a temperate climate and can be humid and overcast. The winters are usually mild and windy, and the summers can be cool or sunny. The weather in Denmark is a popular subject for discussion as it often changes from day to day and even during the day. It is therefore a good idea to bring a coat or an umbrella on outdoor activities. To check the weather forecast when you visit Aalborg, please visit the website of the Danish Meteorological Institute www.dmi.dk for the latest forecast. View the forecast for the next 5 days here: <http://www.dmi.dk/eng/index/forecasts.htm>

For the Benjamin Franklin

Electrical appliances run at 230 volts in Denmark. Electrical outlets in Denmark use a two-prong plug typical for continental Europe. Most laptops will automatically work with 220-230 volts (check the back of your laptop for power input markings).

For Cary Grant

The conference is a non-smoking event and smoking is prohibited throughout the venue. However, for those who do not want to walk outside for smoking, there are a smokers' lounge and a smokers' terrace in the building.

For the one who wears a seat belt

Generally speaking, Denmark is a very safe country and Aalborg is a particularly safe city. Like in most major cities in the world, however, it is advisable to watch ones belongings and valuables while being in public places and to keep cars locked.

Currency and Banks

Denmark's official currency is the Danish krone. The krone is issued through the National Bank of Denmark and is also used in the provinces of Greenland and the Faroe Islands. The currency is pegged at approximately 7.46 kroner per euro (€).

There are numerous ATM with 24-hours service cash dispenser in the city. Major credit cards are widely accepted in the hotel, restaurant, taxi and stores.

Time

The time in Aalborg is Central European Time (Summer Time GMT+1)



Social Programme

Opening Reception - KUNSTEN

Tuesday, July 9th 2013 from 18:15 to 20.00

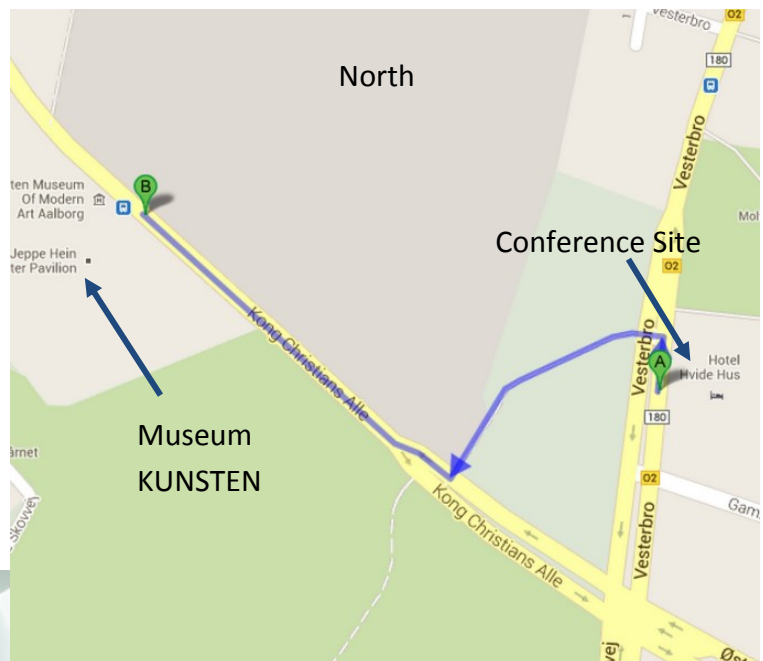
The City of Aalborg's official opening reception will be held at KUNSTEN. KUNSTEN is an architectural masterpiece designed by the famous Finnish architects Elissa and Alvar Aalto in collaboration with Danish Jean-Jacques Barué. This beautiful, fascinating building is situated on near the Aalborg Congress & Culture Centre and is a highly atmospheric venue.

A light selection of appetizers and beverages will be served and you will have free access to enjoy the current exhibitions at KUNSTEN that evening.

A representative from the city council as well as the Dean of Engineering and Science, Aalborg University will welcome all participants.

We meet at KUNSTEN at 18:15, the adress is Kong Christians Allé 50, Tuesday July 9th (400 meters away from the conference site).

(included in the registration fee)



Dinner at the Robbers' Camp

Thursday, July 11th 2013 from 18:00 to 23:00

The spectacular location of the conference dinner is the Robber Camp deep in the Forest of Rold, the largest forest area in Denmark.

For centuries, this area was known as a dubious place for ordinary people to be - especially at night. In the dark, the Rold Robbers would make their move and attack people who, for one reason or the other, had to pass through the forest, which was the only way to get from North to South at that time being.

The atmosphere of the past will be recreated when we resurrect the robbers for you in order to make a thrilling event with a touch of local Danish history.

Buses will take the participants from the conference center to the entrance of the Rebild National Park, where robbers greet the participants and walk them into the forest to the Robber Camp.

During the dinner under the magnificent tree tops - only to be experienced in the region of North Denmark - robber stories and entertainment will keep you alert and make the evening unforgettable!

Of course, the dress code of this evening is outdoor/casual/ and warm clothes and flat shoes are highly recommended!

We meet at the parking lot in front of the conference venue at 18:00, and expected return at 23:00 Thursday, July 11th.

(included in the registration fee)





Technical P

Programme

Monday July 8th 2013, Tutorial 1, 9:00 - 12:30

Title: Enterprise Application Integration - the Cloud Perspective

Room: Bøgesalen (ground floor)

Abstract:

So far, asynchronous messaging has proven to be the best strategy for enterprise application integration (EAI) success. However, building and deploying messaging solutions causes several problems for developers and new technologies and computing paradigms as cloud computing demand for new solutions. There are more than sixty enterprise integration patterns that are designed to effectively develop messaging solutions for enterprises. The tutorial introduces the visual notation framework to describe large-scale integration solutions across different systems and technologies. This includes examples covering a variety of different integration styles and techniques. In a case study we illustrate the application of the patterns in practice and review existing and emerging standards. Also we try to shed light into the future of EAI. In particular cloud integration is an upcoming trend which is discussed in the tutorial, addressing advantages and limitations of this and other modern EAI strategies and architectures. Looking at open-source solutions for enterprise service buses and messaging systems, we also provide practical advice on designing code that connects an application to a messaging system. This provides information to help the practitioner to design EAI or cloud integration solutions by applying the introduced knowledge.



Presenters: Jörg Lässig, is a Full Professor in the field of Enterprise Application Development at the Department of Electrical Engineering and Computer Science at the University of Applied Sciences Zittau/Görlitz since 2011. He holds degrees in Computer Science and Computational Physics and received a Ph.D. in Computer Science for his research on efficient algorithms and models for the generation and control of cooperation networks at Chemnitz University of Technology, which he finished in 2009.

Afterwards he has been participating in various research projects at the International Computer Science Institute at Berkeley, California and at the Università della Svizzera italiana in Lugano, Switzerland. He is currently focusing on various topics in the context of sustainable information technologies and applications which includes the directions sustainability in enterprise IT, green information systems, logistics and supply and business intelligence.



Markus Ullrich is currently a research associate at the University of Applied Sciences Zittau/Görlitz where he received his M.S. and B.S. in Computer Science in 2010 and 2012, respectively. From 2009 to 2012, he worked as a software developer at the Decision Optimization GmbH where he developed and tested data mining algorithms for predictive maintenance. His current research is focused on cloud computing, cloud integration, distributed systems and privacy preserving data mining.

Monday July 9th 2013, Tutorial 2, 9:00 - 12:30

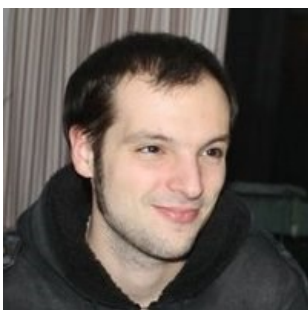
Title: An Introduction to Human Computation and Games With A Purpose

Room: Birkesalen (ground floor)

Abstract:

Crowdsourcing and human computation are novel disciplines that enable the design of computation processes that include humans as actors for task execution. In such a context, Games With a Purpose are an effective mean to channel, in a constructive manner, the human brainpower required to perform tasks that computers are unable to perform, through computer games. This tutorial introduces the core research questions in human computation, with a specific focus on the techniques required to manage structured and unstructured data. The second half of the tutorial delves into the field of game design for serious task, with an emphasis on games for human computation purposes. Our goal is to provide participants with a wide, yet complete overview of the research landscape; we aim at giving practitioners a solid understanding of the best practices in designing and running human computation tasks, while providing academics with solid references and, possibly, promising ideas for their future research activities.

Presenters: **Alessandro Bozzon** is an Assistant Professor at the Delft University of Technology, with the Web Information Systems group. His research interests are into the fields of data and information management on the Web, with specific focus on Semantic Web technologies, human- and social-computation, and data integration. His current research aims at defining a foundational theory for hybrid human and automatic information management systems, by studying the theoretical models and the technical means to achieve this integration.



Luca Galli is a Phd Student at Politecnico di Milano. His research interests involves Data Mining and Text Mining, Human and Social computation, Game Design and video games development technologies (innovative middleware architectures, game engine architecture, multi platform deployment). His current research aims at integrating traditional game paradigms and gamification techniques in the design and implementation of human enhanced applications. He is actively involved in the European CuBRiK project, where he investigates GWAPs and engaging techniques that can be used to drive the users' entertainment in order to solve media refinement tasks.

Monday July 8th 2013, Tutorial 3, 14:00 - 18:00

Title: Responsive Design and Development: Methods, Technologies and Current Issues

Room: Bøgesalen (ground floor)

Abstract:

Responsive design is a major trend in web development to cater for the diversity of devices used for web browsing. However, applying responsive design to existing web sites often involves major reengineering due to the underlying fluid grid concept. Moreover, applications of responsive design are currently limited to desktop-to-mobile adaptation. This tutorial introduces the main ideas behind responsive design with a focus on the methods and technologies. Based on previous research, we highlight several limitations of the original approach and show how the concepts and methods can be extended to adapt to many different viewing conditions including large-screen settings and touch devices.

Presenter: Michael Nebeling is a Post-doctoral Researcher and Lecturer at ETH Zurich. His research and teaching interests are at the intersection of Web Engineering and HCI, including context-aware and adaptive systems, multi-device and gesture-based interaction, end-user development and crowdsourcing. His PhD thesis, *Lightweight Informed Adaptation: Methods and Tools for Responsive Design and Development of Very Flexible, Highly Adaptive Web Interfaces*, has made several contributions to ICWE and has won best paper awards and nominations at CHI 2011 and EICS 2012.



Moira Norrie has been a Professor at ETH Zurich since 1996 when she established a research group on Global Information Systems. She heads the Institute for Information Systems which is part of the Department of Computer Science. Her main areas of research are information systems engineering, information interaction, web engineering and personal information management.

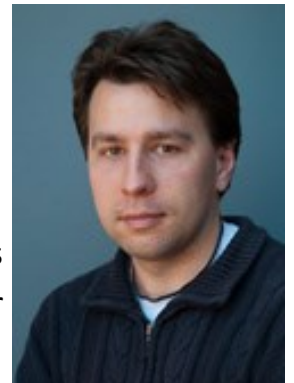
Monday July 8th 2013, Tutorial 4, 14:00 - 18:00

Title: Current Challenges in Web Crawling

Room: Birkesalen (ground floor)

Abstract: Web crawling, a process of collecting web pages in an automated manner, is the primary and ubiquitous operation used by a large number of web systems and agents starting from a simple program for website backup to a major web search engine. Due to an astronomical amount of data already published on the Web and ongoing exponential growth of web content, any party that want to take advantage of massive-scale web data faces a high barrier to entry. In this tutorial, we will introduce the audience to five topics: architecture and implementation of high-performance web crawler, collaborative web crawling, crawling the deep Web, crawling multimedia content and future directions in web crawling research.

Presenter: Denis Shestakov is a postdoctoral researcher at the Department of Media Technology, Aalto University, Finland. He spent one year as a visiting researcher at INRIA Rennes, France. Denis obtained his doctoral degree at University of Turku, Finland in 2008. In his doctoral work, Denis addressed the limitations of web crawlers, specifically the poor coverage of information available in online databases (a.k.a. the deep Web). His current research interests lie in the area of distributed algorithms for big data processing, with particular applications in web crawling and large-scale multimedia retrieval. Denis is maintaining an open group on research works in the area of web crawling. Contact him at denis.shestakov@aalto.fi or visit his homepage.



Monday July 8th 2013, Workshop 1 — QWE 2013 9:00 - 12:30

The 4th International Workshop on Quality in Web Engineering

Room: Vintersalen (1st floor)

Description: Following up the tradition established in the IWWUA (International Workshop on Web Usability and Accessibility) series of workshops held in the context of the WISE conference first, and then the three previous editions of the QWE workshop held in the context of the ICWE conference, this workshop is an opportunity for close interaction among professionals and researchers interested in discussing recent trends and perspectives in the role of quality in the Web Engineering research field. Similarly to the previous edition, QWE will focus quality in Web processes, Web artifacts, Web products (applications, services) and in Web content. Special emphasis will be posed on Web Engineering methods, and the way in which their early artifacts (process and product models) can improve both the quality of the development process and the quality of the final applications and content. This includes, among other aspects, discussing the way in which Web Engineering methods can be further empowered by taking into account quality principles and by integrating sound quality assessment techniques that have proven their effectiveness (review guidelines, usability models, usability evaluation methods, usability checkers, accessibility verifiers, information quality tools, logging tools, automatic metric capture tools, statistical tools, etc.). Furthermore, QWE will extend its scope also focusing on quality in cloud computing. Particular attention will be paid to models and methods to manage and assess quality aspects of applications offered by using the SaaS paradigm or of Future Internet Services.

The main objective of the workshop can be summarized, therefore, as allowing participants to discuss and get to know the most innovative and advanced experiences for guaranteeing the quality of Web applications and content, and the role that Web Engineering methods can play in this task.

The workshop will particularly try to encourage the discussion on new emergent issues related to current trends in the creation of modern Web applications (i.e., Web 2.0 applications) or in offering applications using modern architectural paradigms. The former issue analyzes applications that foster the user involvement in the production of contents, annotations, and evaluations. As a result, a huge amount of user-generated content is populating the Web. The need to manage them in an efficient manner lies behind a set of new topics that are gaining momentum in the Web scenario. Among them, the selection of trustworthy contents from the Web, such as content credibility and author reputation outstands. Another increasingly important topic in this new environment is the development of Web applications (e.g., mashups) through the integration of contents and functions that are provided by third parties that open their APIs or offer services toward developers and end users. Regarding this new generation of applications while several efforts have been so far devoted to the production of authoring environments and development tools, and to the definition of corresponding enabling technologies, there is a lack of proposals for the definition of key quality principles and evaluation methods for the component development, selection, and integration.

Monday July 8th 2013, Workshop 1 — QWE 2013 9:00 - 12:30

The 4th International Workshop on Quality in Web Engineering

Topics of interest:

- Quality definition and assessment
- Information quality dimensions: estimation of information age, provenance, validity, coverage, and completeness or correctness.
- Web sources reputation and trustworthiness
- Quality assessment and improvement methods
- Comparative analysis of quality metrics
- Theoretical/empirical validation of quality metrics
- Tools for automatic quality assessment
- Quality-aware design and development
- Quality guidelines, factors, criteria, metrics, patterns, and recommendations
- Ergonomic/HCI criteria and principles
- Usability and accessibility
- Quality of information integration on the Web
- Management of quality requirements in Web projects
- Role of groups, communities
- Integration of quality assessment activities in the development processes
- Early quality assessment (e.g., based on models, user interfaces prototypes, etc.)
- User Experience
- Empirical studies
- Industrial experiences

Web: <http://users.dsic.upv.es/workshops/qwe13/>

Organizers:



Cinzia Cappiello

Politecnico di Milano
Italy



Adrian Fernandez

Universitat Politècnica de València
Spain



Luis Olsina

National University of La Pampa
Argentina

Monday July 8th 2013, Workshop 2 — DMSSW 2013 9:00 - 18:00

The 2nd International Workshop on Data Management in the Social Semantic Web

Room: Efteraarsalen (1st floor)

Description: The huge amount of social network data available today is pushing the development of techniques that aim at enabling the study of complex relationships among the members of a social network. At the same time, the Resource Description Framework is an ideal and widespread graph-based framework to represent the semantic content of documents such as Web pages, blogs, tweets, and posts, and their relationships. We refer to the combination of the two worlds as to the Social Semantic Web (SSW). The importance and amount of SSW data are impressively increasing and call for new data management models and techniques. The second edition of the International Workshop on Data Management in the Social Semantic Web follows the increasing interest in social networks and the Semantic Web and aims at bringing together all those interested in data management in this setting, fostering the collaboration and cross-fertilization between two related communities. The workshop invites researchers from academia and industry, as well as practitioners, to discuss, propose, and elaborate new approaches to data management in the Social Semantic Web. Running research, results, and experiences on these topics will be presented.

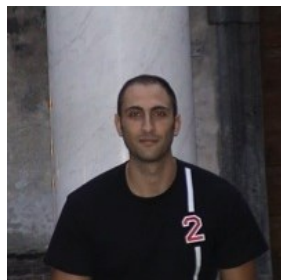
Web: <http://uweb.deis.unical.it/dmssw2013>

Organizers:



Devis Bianchini

Università di Brescia,
Italy



Roberto De Virgilio

Università Roma Tre
Italy



Andrea Pugliese

Università della Calabria
Italy

Monday July 8th 2013, Workshop 2 — DMSSW 2013 9:00 - 18:00

The 2nd International Workshop on Data Management in the Social Semantic Web

Topics of interest:

- Data models for the SSW.
- Query languages for SSW data.
- Storing and indexing SSW data.
- Visual representation and navigation of dynamic SSW data.
- Distributed and Cloud-based SSW data management.
- Query optimization for SSW data.
- SSW data integration.
- Statistical modeling of SSW data.
- SSW data mining.
- SSW data analysis and community discovery.
- Recommendation systems in the SSW.
- Ontologies in the SSW.
- SSW data quality.
- Scalability of SSW data management techniques.
- Benchmarking and testing of SSW data management techniques.
- Topology of SSW data.
- SSW data encoding and compression.
- SSW data protection.
- Trust in the SSW.
- SSW applications.
- Pragmatics of SSW data management in real-world scenarios.
- Risks and opportunities of SSW data management.

Monday July 8th 2013, Workshop 3 — CSE 2013 9:00 - 18:00

The International Workshop on Cloud and Service Engineering

Room: Efteraarsalen (1st floor)

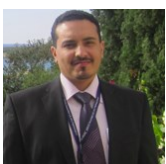
Description: Services play an important role in today's ever growing Web applications. Business organizations are globally focusing on exploiting Web and Cloud services to address their needs. Web services and service-oriented architecture are believed to be one of the most important enabling technologies for cloud services. Cloud services promise several benefits such as reduced expenses and support simplicity in providing flexible and on-demand infrastructures, platforms and software as services for consumers. However, due to the highly dynamic, distributed, and non-transparent nature of cloud services, the expected benefits are not fully met. The International Workshop on Cloud and Service Engineering (CSE 2013) aims to provide an international forum for researchers, developers, and practitioners from multiple disciplines to discuss their innovative ideas and share their knowledge of exploring trends in service engineering methodologies, enabling technologies and state-of-the-art. CSE 2013 seeks original contributions that solve open research problems in the area of service-oriented computing and cloud computing.

Topics of interest:

- XaaS Model, Design and Description (Everything as a service including IaaS, PaaS, and SaaS)
- XaaS Elasticity, Availability and Performance Modelling and Management
- Service Engineering Development Processes and Methodologies
- Model-driven Services Development
- Costs and Pricing of Services, Service Multi-tenancy and Services for Big-data
- Technology Standards for Services + Quality of Service and Metrics
- Service Discovery, Orchestration, and Composition
- Execution and Resource Allocation Services
- Services Management and Configuration + Service Governance and Change Management
- Service Customization (Personalization)
- Monitoring, Matching, and Compliance (Service Level Agreements (SLAs))
- Social Networks and Services (Socially-enhanced services)
- Security, Privacy and Trust

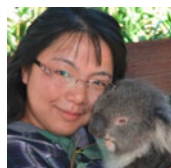
Web: <http://cs.adelaide.edu.au/~cse2013/>

Organizers:



Talal H. Noor

The University of Adelaide
Australia



Lina Yao

The University of Adelaide
Australia



Xiaoqiang Qiao

Chinese Academy of Sciences,
China

Monday July 8th 2013, Workshop 4 — DMSSW 2013 9:00 - 18:00

The International Workshop on Semantic Social Networks

Room: Efteraarsalen (1st floor)

Description: Nowadays, users and community interaction is a growing challenge. By the emergence of collaborative Web, many works have been developed in this domain for community detection, online community analysis or communication network but do not take semantics into account. Adding semantic identification in communities will allow for a better understanding of their underlying topics beyond textual statistical analysis or tag based methods. It will also enable interconnection of communities with semantic-based content (e.g. Yago, DBpedia, etc.)

During the last decade, the basic Internet has turned into a generic exchange platform, where any user has become a content provider by using spreading technologies like comments, blogs and wikis. This collaborative Web hosts successful sites like Myspace, Facebook or Flickr, that allow to build social networks based on professional relationship, interests, etc. The main aspect of this new Web is its social networks (social relationships), which connect friends, even geographically distant. Several works are devoted to the identification of user communities or the enhancement of recommendations systems. Semantic-based community is a new step in the conceptualization of communities. In this workshop, we want to bring together researchers from three relevant domains: Semantic Web, Collaborative Web and Social network analysis. We target researchers from both industry and academia to discuss this new area. We intend to consider the recent and significant developments in the use of semantic techniques in social Web applications.

Topics of interest:

- Community detection
- Evolution of communities
- Semantic Social systems / User profile based on semantic techniques
- Social network analysis / Role identification in social network
- Mobile social network

Web: <http://ufrsciencestech.u-bourgogne.fr/~abrouk/SSN/>

Organizers:



David GROSS-AMBLARD

IRISA -- University of Rennes 1

France



Lylia ABROUK

Le2i - University of Bourgogne

France

Monday July 8th 2013, Workshop 5 — ComposableWeb 14:00 - 18:00

The 5th International Workshop on Lightweight Composition on the Web

Room: Vintersalen (1st floor)

Description: In the context of the Web, the word “mashup” is used to denote Web applications that are materialized by integrating data, services and/or presentation of other (data) sources or applications. Some applications focus on integrating RSS feeds, others on integrating RESTful services or SOAP services, others on Atom feeds, and there are those that focus on integrating user interfaces. We believe mashups – and especially mashup tools with their models, languages and instruments for mashup development – do bring innovation, in that they tackle integration at the user interface level (most mashups do integrate presentation content, not “just” data), they aim at simplicity more than completeness of features (up to the point that advanced Web users, not only programmers, can develop composite applications), and they allow fairly sophisticated development tasks in the web browser.

Over the last years, we have seen many efforts invested in research on mashups, in both the industrial and the academic context, yet we are still far from a common understanding of the problems that drive the research, of the approaches that best fit given problems, and even of the benefits of the results achieved so far.

In light of these considerations, the goal of ComposableWeb is to stimulate the discussion of key issues, approaches, open problems, innovative applications, and trends in the area of web mashups and lightweight composition on the Web, so as to accelerate progress. ComposableWeb aims at bringing together researchers and practitioners with different research interests and belonging to communities like Web Engineering, Service Engineering, Business Process Management, Databases, Semantic Web, Software Composition and Software Engineering.

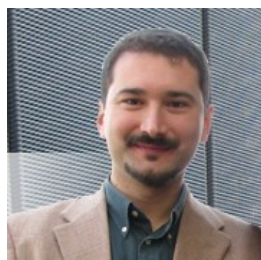
Web: <https://sites.google.com/site/composableweb2013/home>

Organizers:



Sven Casteleyn

Vrije Universiteit Brussel
Belgium



Cesare Pautasso

University of Lugano
Switzerland



Geert-Jan Houben

TU Delft
Netherlands

Monday July 8th 2013, Workshop 5 — ComposableWeb 14:00 - 18:00

The 5th International Workshop on Lightweight Composition on the Web

Topics of interest:

- Web/service/data mashups
- Web composition technologies
- Web composition models and languages
- Lightweight data integration
- Lightweight application integration
- Lightweight UI integration (integration at the presentation level)
- Lightweight (semantic) metadata or knowledge integration
- Mashups and Linked Data
- Design methodologies with/without user involvement
- Domain-specific mashup approaches
- New mashup development models
- Model-driven mashup approaches and engines
- End user oriented mashup approaches
- User interface aspects of Web composition
- Visual/graphical/textual development metaphors
- Context-aware and personalized Web composition/mashups
- Usability and Accessibility of composite Web applications
- Evaluation/quality of composite Web applications
- Case studies and industrial experiences
- Mashup maintenance and evolution
- Mashup within mobile web applications

Wednesday July 10th 2013, Workshop 6 — EMotions 2013 11:00-12:30

Workshop on Engineering Mobile Web Applications

Room: Birkesalen (1st floor)

Description: The sales and penetration of mobile devices in the market is steadily overtaking that of desktops. Nowadays, smartphones and tablets are becoming the users' preferred technological companions; they use their mobile device as the prime way of accessing the Internet in general, and Web content specifically. The marriage between Web and mobile technology offer many opportunities, but also presents new challenges and constraints. On one hand, the introduction of Web technology into mobile phones has created a new milestone for the development of interactive mobile applications. Currently, most mobile devices are robust enough to run a tiny Web browser that allows users to access Web applications everywhere, at any time, even when they are on the move. From the developers' point of view, Web technology allows the deployment of a single Web application that is immediately accessible through many mobile platforms, thus reducing the costs of creating and maintaining embedded applications on an increasing number of mobile platforms. On the other hand, new mobile usage scenarios, and the new capabilities of mobile devices, forces Web technology, and corresponding engineering methods and techniques, to evolve to respond to these new requirements and user demands. Web applications have to be tailored to deal with the constraints imposed by mobile technology such as small screens, low (and sometimes expensive) bandwidth, limited browser capabilities, different usage situations, etc. Then again, they also might benefit from the user's mobility, and it's associated information (e.g., the user's geo-location, sensor data), to dynamically customize the Web application and its content.

All these constraints and opportunities require appropriate methods and tools for engineering Web applications that are aimed to be accessible through mobile devices.

The goal of this workshop is to bring the attention of participants of ICWE to the opportunities and challenges brought by recent advances on mobile technology allowing ubiquitous access to Web applications through mobile devices. We are interested in theories and practice for the development of mobile Web applications including models, methods, tools, frameworks and case studies that describe Web applications running on mobile Web browsers.

Web: <https://sites.google.com/site/workshopemotions2013/>

Organizers:



Sven Casteleyn

Vrije Universiteit Brussel

Belgium

Marco Winckler

University Paul Sabatier, Toulouse

France

Workshop on Engineering Mobile Web Applications

Topics of interest:

- Adaptation techniques for deploying Web sites over mobile platforms;
- Contextualization of user experience with mobile Web apps;
- End-user customizations for mobile Web apps;
- Experience reports describing actual usage of mobile Web applications;
- Frameworks and new technologies for developing mobile Web applications;
- Investigation of connection modes (e.g. connected versus disconnected mode);
- Strategies for adapting and integrate information according to the user's current (geo) location;
- Studies investigating the of actual usage of mobile Web applications;
- Successful/failures stories of developing/deploying web application on mobile platforms;
- Techniques for blending Web and native apps;
- Techniques, methods and tools for migration of applications towards Web platforms;
- Users' requirements and technical constraints for running Web apps in mobile devices;
- Web technologies for integration and deployment of applications on smartphones;
- Usability of mobile Web apps;
- Use of semantic web technologies to build mobile Web apps;
- Use of Web technologies (e.g., HTML5, javascript) to build native apps;
- Target audience: the workshop is open to both research and practitioners interested in:
- Developing new Web applications that are aimed to be used on a smartphone;
- Techniques and methods for deploying/visualizing Web applications on mobile devices
- Developing Web applications that exploit mobile device capabilities (e.g., geo-location, sensor information);
- Understands users' needs and environmental constraints related to mobile Web applications;
- Using semantic web technology to build mobile (web) apps.

Wednesday July 10th 2013, Workshop 7 — MDWE 2013 14:00 - 18:00

The 9th Model-Driven and Agile Engineering for the Web Workshop

Room: Birkesalen (1st floor)

Description: The main goal of this workshop is to offer a forum to exchange experiences and ideas related to model-driven and agile development of Web applications. Accordingly, we will organize an interactive event where we will invite submissions from academia and industry about topics that comprise both model-driven and agile engineering.

The focus is on research for the improvement of the Web development (e.g. domain specific modeling languages, model transformation languages, reverse engineering, etc.) as well as on combining model-driven engineering (MDE) with agile software development (extreme programming, scrum, etc.) and other industrial software paradigms (e.g., product line engineering, aspect-oriented development, etc.) for the development of Web applications. Further topics of interest are the inter-operability models for Web applications and resources (Web pages, Web services, mockups, portlets, distributed components, etc.) and the use of tools and frameworks for supporting model-driven and agile Web development.

Welcome are also contributions that foster discussions on the analysis of advantages, problems and limitations of such approaches in the Web engineering domain. Topics such as maintenance, evolution, testing, quality and management of model-based generated or agile developed Web systems are also relevant for this workshop. Regarding the thematic type of applications, we are in particular interested in work that addresses model-driven and agile approaches for the development of social and mobile Web applications.

Web: <http://mdwe2013.dlsi.ua.es/>

Organizers:



Santiago Meliá

Universidad de Alicante

Spain



Manuel Wimmer

Vienna University of Technology

Austria

Wednesday July 10th 2013, Workshop 7 — MDWE 2013 14:00 - 18:00

The 9th Model-Driven and Agile Engineering for the Web Workshop

Topics of interest:

- Combining MDE with Agile Development Processes (e.g., Scrum, eXtreme Programming, Lean etc.) in the Web context / MDE in the context of Web application development
- Problems or limitations of MDE and Agile Development in the Web Engineering domain
- Using an Agile Modelling approach (e.g. Agile Model-driven Development (AMDD) or Agile Unified Process (AUP)) in the Web context
- Other software engineering approaches (e.g., product line engineering, aspect-oriented development, etc) for the development of Web systems
- Metamodels for model-driven approaches used for Web applications development
- Domain specific modelling languages for Web Engineering
- Model-driven tools and frameworks for supporting Web development
- Patterns in the design and implementation of Web applications
- Web systems software architecture modelling in MDE approaches
- Model executability for (rich) Web applications (code generation vs. interpretation)
- Model-to-model and model-to-code transformations for (rich) Web applications development; quick prototyping and early customer feedback
- Model-driven analysis of Web applications, including quality, performance or reliability analysis conducted using high-level models of the applications
- Maintenance, evolution and management of model-driven generated and Agile developed Web systems / Domain-driven design of Web applications
- Use and specification of semantic Web-based approaches applying model-driven techniques / Model-driven reverse engineering and re-engineering of Web applications
- Integration of MDE practices with requirements engineering approaches for the Web
- Industrial experiences of Model-driven and Agile Web development
- Quantitative and qualitative evaluation of the impact of MDE and Agile practices in Web development (efficiency, effectiveness, productivity, understandability, ...)
- MDE and sustainability on the Web / MDE and software engineering education on the Web / Testing modeling and quality of code analysis in MDE tools for the Web
- Usability and satisfaction of use in MDE tools for and on the Web / Modeling and executability of secure Web applications

Tuesday July 9th 2013, Keynote Speaker 1, 9:15 - 10:15

Title: Service Mining: Using Process Mining to Discover, Check, and Improve Service Behavior

Presenter: Prof.dr.ir. Wil van der Aalst, Technische Universiteit Eindhoven, Netherlands

Chairman: Florian Daniel, University of Trento, Italy

Room: Den Ny Kilden (2nd floor)



Abstract: Web services are an emerging technology to implement and integrate business processes within and across enterprises. Service-orientation can be used to decompose complex systems into loosely coupled software components that may run remotely. However, the distributed nature of services complicates the design and analysis of service-oriented systems that support end-to-end business processes. Fortunately, services leave trails in so-called event logs and recent breakthroughs in process mining research make it possible to discover, analyze, and improve business processes based on such logs. In this keynote, Wil van der Aalst will focus on the opportunities and challenges for service mining, i.e., applying process mining techniques to services. Service mining is concerned with (a) the discovery of service behavior, (b) checking conformance of services, and (c) service model extension (e.g., showing bottlenecks based on event data). Examples of challenges specific for service mining are: (a) “How to Correlate Instances?” and (b) “How to Analyze Services Out of Context?”. These challenges show that, despite the huge potential of service mining, additional research is needed to improve the applicability of process mining in distributed and loosely coupled systems.

Resume: Prof.dr.ir. Wil van der Aalst is a full professor of Information Systems at the Technische Universiteit Eindhoven (TU/e). Currently he is also an adjunct professor at Queensland University of Technology (QUT) working within the BPM group there. His research interests include workflow management, process mining, Petri nets, business process management, process modeling, and process analysis. Wil van der Aalst has published more than 150 journal papers, 17 books (as author or editor), 300 refereed conference/workshop publications, and 50 book chapters. Many of his papers are highly cited (he has an H-index of more than 94 according to Google Scholar, making him the European computer scientist with the highest H-index) and his ideas have influenced researchers, software developers, and standardization committees working on process support. He has been a co-chair of many conferences including the Business Process Management conference, the International Conference on Cooperative Information Systems, the International conference on the Application and Theory of Petri Nets, and the IEEE International Conference on Services Computing. He is also editor/member of the editorial board of several journals, including the Distributed and Parallel Databases, the International Journal of Business Process Integration and Management, the International Journal on Enterprise Modelling and Information Systems Architectures, Computers in Industry, Business & Information Systems Engineering, IEEE Transactions on Services Computing, Lecture Notes in Business Information Processing, and Transactions on Petri Nets and Other Models of Concurrency. In 2012, he received the degree of doctor honoris causa from Hasselt University. He is also a member of the Royal Holland Society of Sciences and Humanities (Koninklijke Hollandsche Maatschappij der Wetenschappen) and the Academy of Europe (Academia Europaea).

Wednesday July 10th 2013, Keynote Speaker 2, 9:00 - 10:00

Title: How to Share Data Securely

Presenter: Sean Wang. Fudan University, Shanghai, China

Chairman: Geert-Jan Houben, TU Delft, Netherlands

Room: Den Ny Kilden (2nd floor)



Abstract: Data is increasingly available in a digital form, and data about us is being continuously collected. Such data has made possible many interesting and useful applications, and in essence made it possible for the Web to exist in the current form. Sharing this data makes a lot of sense for many reasons. However, personal privacy has become a concern. In this talk, I will touch upon a recent study of the privacy data leakage problem of mobile apps in China, and discuss various ways to protect user data. However, completely locking up data is neither desirable nor necessary. How to share our data in a secure way becomes an interesting question. Privacy protection of data has been a research problem for decades, with many interesting results emerging in the last 15 or so years. In this talk, I will discuss a framework for secure data sharing, linking many of the existing solutions under a unified principle. The hope is to develop new insights and better data sharing methods.

Resume: Sean Wang is Professor and Dean at the School of Computer Science, Fudan University, Shanghai, China. He received his PhD degree in Computer Science from the University of Southern California, Los Angeles, California, USA, in 1992. Before joining Fudan University in 2011, he was the Dorothean Chair Professor in Computer Science at the University of Vermont, Burlington, Vermont, USA, and between 2009-2011, he served as a Program Director at the National Science Foundation, USA, in the Division of Information and Intelligent Systems. He has published widely in the general area of databases and information security, and was a recipient of the US National Science Foundation Research Initiation and CAREER awards. His research interests include database systems, information security, data mining, and sensor data processing. In the research community, he served as the general chair of ICDE 2011 held in Washington DC, and in other roles at international conferences and journals, including PC co-chair of MDM 2013, WISE 2012, PC member of past SIGMOD, CIKM, ICDE and many other conferences, current associate editor of Geoinformatica and WWW journal, and past associate editor of TKDE and KAIS.

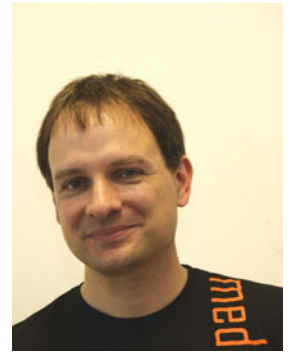
Thursday July 11th 2013, Keynote Speaker 3, 14:15 - 15:15

Title: An Internet of Custom-Made Things: From 3D Printing and Personal Fabrication to Personal Design of Interactive Devices

Presenter: Jan Borchers, Aachen University, Germany

Chairman: Peter Dolog, Aalborg University, Denmark

Room: Den Ny Kilden (2nd floor)



In the homes of bleeding-edge tinkerers around the world, a revolution is happening that, as many predict, will overshadow the PC and internet revolutions that began with home computers in the 70's: Personal Fabrication. Sub-\$1000 3D printers are a reality, and other computer-controlled digital fabrication tools such as lasercutters are close behind. Research labs are printing anything from molecules to entire houses, and Fab Labs around the world are introducing the public to the possibilities and dangers of this new era in production.

On the one hand, these tools are bringing exciting changes to the way we teach and do ubicomp and HCI research: Instead of merely creating on-screen prototypes, students are now able to rapidly create actual working, networked hardware prototypes with little effort, driving home the message that successful interactive products today require software and hardware design to go hand in hand. As personal fabrication technologies evolve to include multiple materials and even electronics in custom-made objects, their interface will likely be mediated via online services, leading to new challenges for how to create the appropriate web-based architectures for an Internet of Custom-Made Things. On the other hand, it is still largely unclear how users at home should create those 3D models to print or otherwise fabricate on their desktop factory of the near future: For example, will they download and customize online designs, specifying their search queries for object models via hand shape gestures in mid-air? This is a major challenge for HCI that calls for radically new user interface approaches, paradigms and interaction techniques for what I call "Personal Design", before we'll arrive at something like the MacPaint of Digital Fabrication.

Resume: Jan Borchers is full professor of computer science and head of the Media Computing Group at RWTH Aachen University in Germany, after holding faculty positions at ETH Zurich and Stanford University. He is interested in human-computer interaction, in particular interfaces for smart environments, ubiquitous, wearable and physical computing, user interfaces for personal fabrication and rapid prototyping, interactive exhibits, and time-based media such as audio and video. He has published the first book on HCI design patterns, several book chapters, and over 100 articles at ACM conferences such as CHI, UIST, ITS and DIS, and in journals such as ACM interactions, IEEE Multimedia, and others. His group is Germany's best-published research group in terms of archival publications at CHI, the premier international conference on Human-Computer Interaction, and he established Germany's first Fab Lab in 2009. In his spare time, he enjoys creating interactive gadgets and playing jazz piano.

Tuesday July 9th 2013, Technical Session, 11:00 - 12:30

S1 Web Application Engineering

Chairman: Daniel Schwabe, The Pontifícia Universidade Católica do Rio de Janeiro , Brasil

Room: Den Ny Kilden (2nd floor)

MockAPI: An Agile Approach Supporting API-first Web Application Development

José Matías Rivero, Sebastian Heil, Julián Grigera, Martin Gaedke and Gustavo Rossi.

Semantic Data Driven Interfaces for Web Applications

Vagner Nascimento and Daniel Schwabe

Integrating Component-based Web Engineering into Content Management Systems

(shortlisted for best paper award)

Stefania Leone, Alexandre De Spindler, Moira Norrie and Dennis McLeod

Tuesday July 9th 2013, Discussion Session, 14:00 - 15:30

Open Space Session: New ideas to improve future ICWE conferences

Chairman: Peter Dolog, Aalborg University, Denmark

Room: PARK center (ground floor)

Open Space - Gives ICWE members an opportunity to address complex problems and/or ideas. In a set-up that ensures optimal communication, collaboration, innovation, and solutions to challenges. It is an interactive process - participants bring their own relevant subjects to the "agenda" and then meet in concurrent and overlapping mini-discussions around a theme or an issue. The cross-pollination of moving from group to group and topic to topic in a non-linear way allows participants to jump quickly from familiar ways of thinking into innovation and action.

Tuesday July 9th 2013, Technical Session, 16:00 - 18:00

S2 Web Information Retrieval

Chairman: Roberto de Virgilio, Università Roma Tre, Italy

Room: Den Ny Kilden (2nd floor)

Tag cloud generation for results of multiple keywords queries

Martin Leginus, Peter Dolog and Ricardo Lage

Summaries on the fly: Query-based extraction of Structured Knowledge from Web Documents

Besnik Fetahu, Bernardo Pereira Nunes and Stefan Dietze

Mining Taxonomies from Web Menus: Rule-Based Concepts and Algorithms

Matthias Keller and Hannes Hartenstein

Evaluation of Personalized Social Ranking Functions of Information Retrieval

Mohamed Reda Bouadjenek, Aymn Bennamane, Hakim Hacid and Mokrane Bouzeghoub

S6 Client-Server Programming

Chairman: Alessandro Bozzon, TU Delft, Netherlands

Room: Birkesalen (ground floor)

Hidden-Web Induced by Client-Side Scripting: An Empirical Study

(shortlisted for best paper award)

Zahra Behfarshad and Ali Mesbah

Discovering Implicit Schemas in JSON Data

Javier Luis Canovas Izquierdo and Jordi Cabot

The SWAC Approach for Sharing a Web Application's Codebase between Server and Client

Markus Ast, Stefan Wild and Martin Gaedke

Wednesday July 10th 2013, Technical Session, 11:00 - 12:30

S3 Web Services and Cloud Computing

Chairman: Florian Daniel, University of Trento, Italy

Room: Den Ny Kilden (2nd floor)

A Framework for Migrating Web Applications to Web Services

Asil Almonaies, Manar Alalfi, James R. Cordy and Thomas R. Dean

Automatic Refinement of Service Compositions

Umberto Costa, Mirian Halfeld Ferrari, Martin Musicante and Sophie Robert

A Generative Approach for the Adaptive Monitoring of SLA in Service Choreographies

Antonia Bertolino, Antonello Calabro' and Guglielmo De Angelis

Detecting Occasional Reputation Attacks on Cloud Services

Talal H. Noor, Quan Z. Sheng and Abdullah Alfazi

Wednesday July 10th 2013, Technical Session, 16:00 - 18:00

Industry papers

Chairman: Cesare Pautasso, University of Lugano, Switzerland

Room: Den Ny Kilden (2nd floor)

Multi-Tenancy Performance Benchmark for Web Application Platforms

Rouven Krebs, Alexander Wert and Samuel Kounev

Agile Software Development with Open Source Software in a Hospital Environment — Case Study of an eCRF-System for Orthopaedical Studies

Özcan Tünay, Semra Kocak and Philipp Brune

USTO.RE: A Private Cloud Storage System

Frederico Durão, Rodrigo Assad, Anderson Fonseca, Jose Fernando, Vinícius Garcia and Fernando Trinta

Market Intelligence. Linked Data-driven Entity Resolution for Customer and Competitor Analysis

Ulli Waltinger, Dan Tecuci, Florin Picioroaga, Cosmin Grigoras and Sean Sullivan

Thursday July 11th 2013, Technical Session, 9:00 - 10:30

S4 Mashups and End User Development

Chairman: Marco Winckler, University Paul Sabatier, Toulouse, France

Room: Den Ny Kilden (2nd floor)

CapView - Functionality-aware Visual Mashup Development for Non-Programmers

Carsten Radeck, Gregor Blichmann and Klaus Meißner

Social Spreadsheet

Juan José Jara Laconich, Fabio Casati and Maurizio Marchese

User-Driven Automation of Web Form Filling

Oscar Diaz, Itziar Otaduy and Gorka Puente

Wednesday July 10th 2013, Technical Session, 11:00 - 12:30

S5 Component based user interfaces

Chairman: Martin Gaedke, Chemnitz University of Technology, Germany

Room: Den Ny Kilden (2nd floor)

DireWolf - Distributing and Migrating User Interfaces for Widget-based Web Applications **(shortlisted for best paper award)**

Dejan Kovachev, Dominik Renzel, Petru Nicolaescu and Ralf Klamma

Awareness and Control for Inter-Widget Communication: Challenges and Solutions

Olexiy Chudnovskyy, Stefan Pietschmann, Matthias Niederhausen, Vadim Chepegin, David Griffiths and Martin Gaedke

Heuristic Role Detection of Visual Elements of Web Pages

Elgin Akpınar and Yeliz Yeşilada

Performance-Aware Design of Web Application Front-Ends

Dennis Westermann, Jens Happe, Petr Zdrahal, Moser Martin and Ralf Reussner

Thursday July 11th 2013, Technical Session, 16:00 - 18:00

S9 Crawling and Revisitation

Chairman: Irene Garrigós , University of Alicante, Spain

Room: Den Ny Kilden (2nd floor)

Building Rich Internet Applications Models: Example of a Better Strategy

Suryakant Choudhary, Mustafa Emre Dincturk, Seyed Mirtaheri, Guy-Vincent Jourdan, Gregor Bochmann and Iosif Viorel Onut

Intelligent and Adaptive Crawling of Web Applications for Web Archiving

Muhammad Faheem and Pierre Senellart

Enhancing Web Revisitation by Contextual Keywords

Tangjian Deng, Liang Zhao and Ling Feng

Friday July 12th 2013, Technical Session, 9:00 - 10:30

S7 Navigation Analysis and Collaboration

Chairman: Oscar Diaz, University of the Basque Country , Spain

Room: Den Ny Kilden (2nd floor)

Generating Feature Usage Scenarios in Client-side Web Applications

Josip Maras, Maja Štula and Jan Carlson

Supporting Customized Views for Access Control Constraints in Real-time Collaborative Web Applications

Patrick Gaubatz, Waldemar Hummer, Uwe Zdun and Mark Strembeck

Searching Trustworthy Information Gathering Paths

Sudhir Agarwal and Martin Junghans

A Domain Specific Language for Orchestrating User Tasks whilst Navigation Web sites

Sergio Firmenich, Gustavo Rossi and Marco Winckler

Friday July 10th 2013, Technical Session, 11:00 - 12:30

S7 Semantic Data Search and Interlinking

Chairman: Sven Casteleyn, Vrije Universiteit Brussel, Belgium

Room: Den Ny Kilden (2nd floor)

A Linear and Monotonic Strategy to Keyword Search over RDF Data

Roberto De Virgilio, Antonio Maccioni and Paolo Cappellari

Identifying candidate datasets for data interlinking

Luiz André P. Paes Leme, Giseli Rabello Lopes, Bernardo Pereira Nunes, Marco Antonio Casanova and Stefan Dietze

Discovering links between political debates and media

Damir Juric, Laura Hollink and Geert-Jan Houben

Assisting User Browsing over Linked Data: Requirements Elicitation with a User Study

Dhavalkumar Thakker, Vania Dimitrova, Lydia Lau, Fan Yang-Turner and Dimoklis Despotakis.

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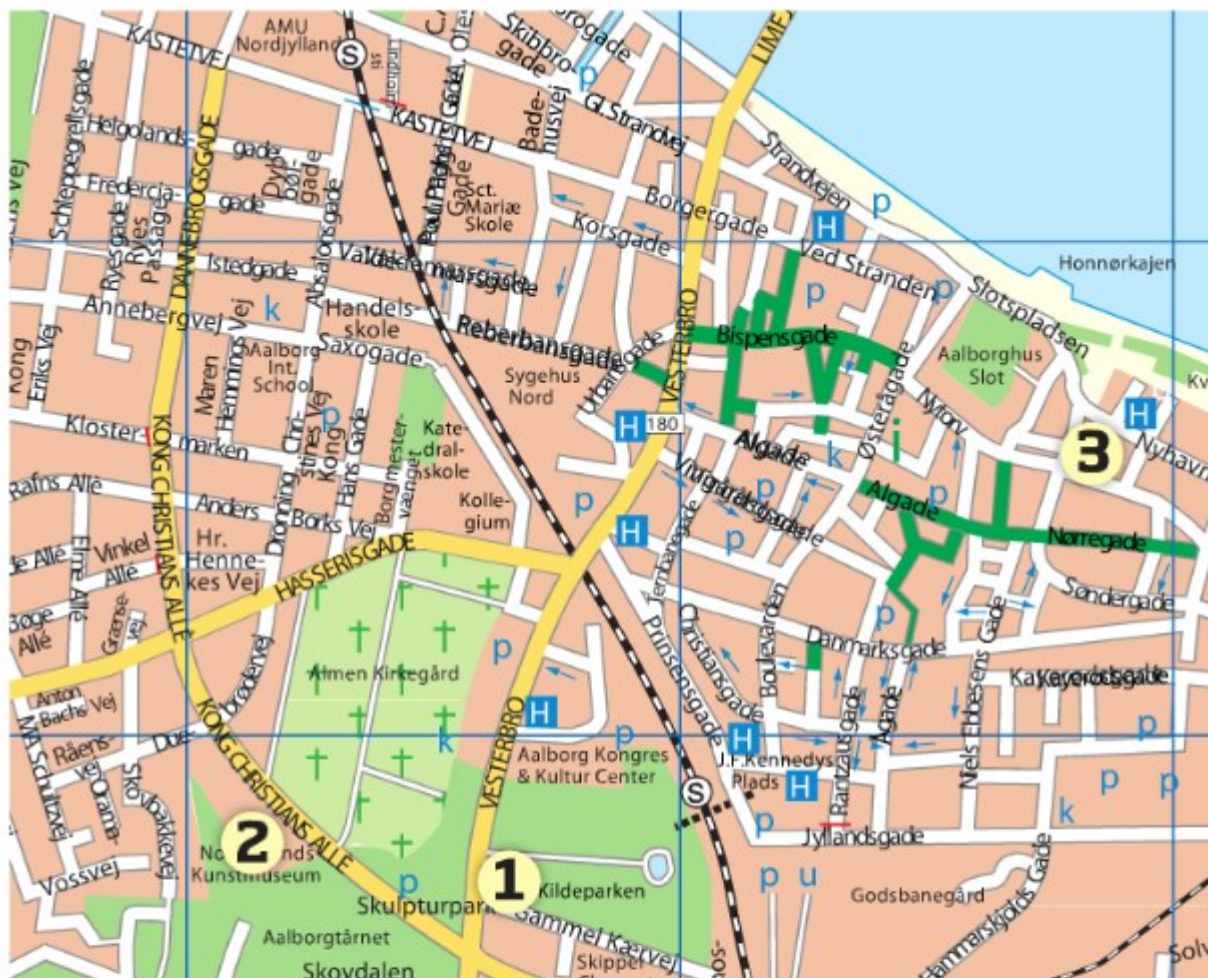
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City Map

Of Aalborg



1 Hotel Hvide Hus
Accommodation
Conference venue
Pick-up for conference dinner
Thursday July 11th 2013, 18:15-23:00

2 KUNSTEN Museum of Modern Art
The city of Aalborg's official opening
reception Tuesday July 9th 2013, 18:15-20:00

3 Hotel Cabinn Aalborg
Accommodation

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