

## New business, design and models to create semantic ambient media experiences

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Semantic ambient media are today in a high stage of maturity, and found their way from research laboratories into several aspects of our daily life. They turned from an experimental setting into business, which is demonstrated by the articles collected within the scope of this special issue. Many still believe that ambient media solely relate to ambient advertising, where ads are distributed throughout our urban environment. But ambient media are a new genre of media, as television, print media, or digital media are. They create a media environment within the natural living environment, are intelligent, and react pro-actively to the consumer. Semantic media underlay 5 principles: manifestation, morphing, intelligence, collaboration, and

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experience, as discussed in [1,2,4–6,8]. With this special issue we collected eight groundbreaking articles shading new light on the world of ambient media. Several articles contribute through various aspects which are briefly discussed within this editorial.

A special feature of this special issue is the first article, which discusses several contributions and attempts to provide a topical introduction into the themes addressed. The article is entitled “*Ambient Bloom: New Business, Content, Design, and Models to Increase the Semantic Ambient Media Experience*” contributed by B. Pogorelc et al. This special issue ranges a wide range of applications of ambient media—ranging from gaming, TV, assisted living, mobile contexts, ambient displays, business models, and health care. The articles discuss a wide range of new ambient technologies, algorithms, business models, and methods to demonstrate the innovation aspects that ambient media bring.

The second article contributed by A. Lugmayr et al, entitled “*Categorization of Ambient Media Projects on their Business Models, Innovativeness, and Characteristics – Evaluation of Nokia Ubimedia MindTrek Award Projects of 2010*” gives an overview of a wide range of ambient media applications, and shades insight into the defining ambient media from a business viewpoint. The remaining six articles focus on specific aspects of semantic media. The following two articles devote to new display technologies, or the way how the consumer awareness of interactive displays can be increased: “*On Designing Interactivity Awareness for Ambient Displays*”, contributed by R.-D. Vatavu, and “*AmbiKraf: A Ubiquitous Non-Emissive Color Changing Fabric Display*” written by R. L. Peiris et. Al. The application of ambient media in health care or for supporting ambient assisted living is discussed in the next two articles of the special issue, which are entitled “*Detecting the Health Problems in the Elderly using Dynamic Time Warping*” contributed by B. Pogorelc et. Al. and “*Assisted Living Solutions for the Elderly Through Interactive TV*” written by E. Stojmenova et. Al. Interaction technologies, such as speech and language recognition are discussed in the remaining two articles. They are entitled “*Automatic Speech Recognition- An Approach for Designing Inclusive Games*”, contributed by M. M. Mustaquim; and “*Towards Mobile Language Evolution Exploitation*” written by G. Zenz et. Al.

If you should be interested in joining activities around the wider field of semantic ambient media, we would like to draw the attention to activities such as the AMEA - Ambient Media Association (see <http://www.ambientmediaassociation.org>), the Semantic Ambient Media (SAME) workshop series (see e.g. [3,7]), or the Nokia Ubimedia MindTrek Award (see <http://www.numa.fi>).

We definitely wish to give the reader a fully new perspective on the newly emerging field of ambient media. We also would like to thank all the contributors of this special issue, especially our team of reviewers.

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**Prof. Dr. Artur Lugmayr** describes himself as a creative thinker of future media environments, and his scientific work is situated between art and science. He has over 15 years experience in the wider field of digital media from a business, technological, and content creation perspective. His experience extends towards digital television, digital film making, virtual reality, media business information management, business consultancy, social media, ambient media, and creative media designs. His vision is to *create innovative media experiences with emerging media platforms tagged with solid business models and processes*. Starting from July 2009 he is full-professor for entertainment and media production management at the *Department of Business Information Management and Logistics* at the *Tampere University of Technology (TUT)* and founded the *EMMi – Entertainment and Media Production Management Lab*. He was the head and founder of the *New Ambient Multimedia (NAMU)* research group at the Tampere University of Technology (TUT), Finland, which was part of the Finnish Academy Centre of Excellence of Signal Processing from 2006 to 2011. He is holding a Dr.-Techn. degree from the Tampere University of Technology (TUT), Finland, and is currently engaged in Dr.-Arts studies at the School of Motion Pictures, TV and Production Design (Aalto Univ.), Helsinki, Finland. He managed and coordinated numerous large scale scientific projects on national and international level; was guest scientist at several universities and/or hold guest lectures/talks (e.g. Harvard Medical School/USA, QUT/Australia, KTH/Sweden, UFAM/Brasil, Univ. of Neuchatel/Switzerland); chaired the ISO/IEC ad-hoc group “MPEG-21 in broadcasting”; won the NOKIA Award of 2003 with the text book “Digital interactive TV and Metadata” published by Springer-Verlag in 2004; representative of the Swan Lake Moving Image & Music Award; board member of MindTrek Association; EU project proposal reviewer; invited key-note speaker for several conferences; founder of the Ambient Media Association (AMEA); supervised over 30 thesis works; general chair of several conferences (e.g. EuroITV, Academic MindTrek); organized over 20 workshops (e.g. SAME workshop series); established several competition situated between art and technology (e.g. Nokia Ubimedia MindTrek Award, EuroITV Grand Challenge); held over 10 scientific conference tutorials (e.g. ICME, EuroITV, uxTV, ACM Multimedia); is editorial board member of several journals and publishers (e.g. Springer-Verlag, SERSC Press, IGI, ACM Computers in Entertainment); acted as review/programme committee member of over 30 conferences; contributed numerous books, book chapters, and wrote over 50 scientific publications. He founded the production company LugYmedia Inc. and is in the process to establish new startup companies.



**Björn Stockleben** was awarded his master's degree in Media Sciences, Media Technology and Computer Sciences from Technical University of Brunswick and Brunswick School of Arts in 2003. For Rundfunk-Berlin Brandenburg he has been acting as technical manager in EC- and ESA-funded research projects such as IST-INSTINCT, IST-ENTHRONE and ARTES-COTV. He is an expert in participative media, interactive service authoring and non-linear AV media. Currently he works as scientific coordinator for the new master program "Cross Media", which combines management, journalism and interaction design at University of Applied Sciences Magdeburg-Stendal. He lectures in media theory at University of Applied Sciences Bremen and human-machine interaction at Technical University Brunswick.



**Thomas Risse** is the deputy managing director of the L3S Research Center in Hanover. He received a PhD in Computer Science from the Darmstadt University of Technology, Germany in 2006. Before he joined the L3S Research Center in 2007 he lead a research group about intelligent information environments at Fraunhofer IPSI, Darmstadt. Currently he is the scientific and technical director of the FP7 ARCOMEM project on Web archiving using social media information. Thomas Risse's research interests are semantic evolution, data management in distributed systems, and self-organizing systems. He serves regularly as program committee member or project reviewer. He published several papers at the relevant international conferences.



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