Carsten Busch/Jürgen Sieck (Hrsg.)

Kultur und Informatik

Cross Media

vwh
Verlag Werner Hülsbusch
Fachverlag für Medientechnik und -wirtschaft

C. Busch/J. Sieck (Hrsg.):
Kultur und Informatik: Cross Media

Anschrift der Herausgeber:
Hochschule für Technik und Wirtschaft
FB 4, Forschungsgruppe INKA
Wilhelminenhofstr. 75a
12459 Berlin

Bibliografische Information der Deutschen Bibliothek
Die Deutsche Bibliothek verzeichnet diese Publikation in der Deutschen Nationalbibliografie; detaillierte bibliografische Daten sind im Internet unter http://dnb.ddb.de abrufbar.

© Verlag Werner Hülsbusch, Glückstadt, 2015

vwh Verlag Werner Hülsbusch
Fachverlag für Medientechnik und -wirtschaft

www.vwh-verlag.de

Alle Rechte vorbehalten.
Das Werk einschließlich aller seiner Teile ist urheberrechtlich geschützt.
Jede Verwertung außerhalb des Urheberrechtsgesetzes ist ohne Zustimmung des Verlages unzulässig und strafbar. Dies gilt insbesondere für Vervielfältigungen jeder Art, Übersetzungen und die Einspeicherung in elektronische Systeme.

Markenerklärung: Die in diesem Werk wiedergegebenen Gebrauchsnamen, Handelsnamen, Warenzeichen usw. können auch ohne besondere Kennzeichnung geschützte Marken sein und als solche den gesetzlichen Bestimmungen unterliegen.

Umschlag: design of media, Lüchow
Druck und Bindung: SOWA Sp. z o.o., Piaseczno

Printed in Poland

– Als Typoskript gedruckt –

ISBN: 978-3-86488-082-7

Inhalt

9 Preface

13 Culture in a Digital Society – the International Perspective
Verena Metze-Mangold

27 Society in Change – Culture and Digitalisation from a Business Perspective
Franziska Nentwig

33 Visualising the Content of a Text in a Virtual World
Marie-Francine Moens, Quynh Ngoc Do Thi, Parisa Kordjamshidi, Oswaldo Ludwig

39 Digital Tools for Survey and Knowledge: an Investigation of the Ancient Cathedral and the Pionta Hill in Arezzo, Italy
Angela Mancuso, Mirco Pucci, Giorgio Verdiani, Mauro Mariottini

53 Visualisation and Interaction in a Micro Smart Grid
Julien Letellier, Jens Reinhardt, Stefan Schöbinger, Jürgen Sieck, Michael Thiele-Maas

65 The GLAM-Hackathon: "Coding da Vinci"
Stephan Bartholmei, Barbara Fischer, Helene Hahn, Anja Müller, Bela Seeger

77 A Geometrical Approach towards Augmented Space Coverage Management
Mircea Strutu, Florin Stoican, Dan Popescu, Ionela Prodan

87 Information System of Interactive Visitor Guides in Modern Museums
Svetlana Antoshchuk, Volodymyr Brovkov, Anastasia Breskina, Oleksandr Kotliar

97 Tour de Kunsthalle
Jörg Engster

105 Visualising the »Un-seen«: towards Critical Approaches and Strategies of Inclusion in Digital Cultural Heritage Interfaces
Katrin Glinka, Sebastian Meier, Marian Dörk

119 The Virtual Exhibition
Martin Villinger, Markus Hennies

135 The Experience of Going Back in Time through Augmented Reality and Archives
Francesca Guerrera

141 MAUERSCHAU: A Mobile Virtual Museum
Maximilian von Grafenstein, Eva Schneider, Nancy Richter

157 Shut Up and Take My Data
Nathanael Siering

167 Scholarly Context Not Found
Martin Klein

171 Enhancing Semantic Metadata with Curated Content for Multimedia Content Exploration
Jörn Kreutel, Kristin Schulz

185 Algorithms of Power: Detecting Key Visuals of Heads of State on Screens
Peter Ludes, Martin Stommel, Otthein Herzog

197 "KAISA" – Technology for Creation and Presentation of Integrated Encyclopaedic Internet Resources on the Basis of Archival and Museum Collections
Marina Grinfeld, Petr Grinfeld, Tatyana Mersadykova

203 A Trial of Digital Preservation: the Meryemana Rupestrian Church in Göreme, Turkey
Giorgio Verdiani, Carlo Gira

219 The Music of Machines
Florian Grote

231 Functional Sound Design and Acoustic Scenography
Jan Paul Herzer

241 Advances in Ludomusical Experience Profiling
Hans-Peter Gasselseder

255 The Interactive Drama to Go
Carsten Busch, Florian Conrad, Robert Meyer

265 BorderCheck
Katharina Kepplinger

277 One Size Fits All – How to Enhance Sophisticated Travel Information for Cross Media Use
Andrea Rohrberg, Dorothea Herrmann

287 Increasing Open Data Awareness and Consumption in Namibia: a Hackathon Approach
Lameck M. Amugongo, Hippolyte N. Muyingi, Jürgen Sieck

Preface

Culture and Computer Science – Cross Media

The 13th edition of the "Culture and Computer Science – Cross Media" conference series brings into focus best practice examples, challenges and future trends in the fields of media integration, cross media technologies, modelling, visualisation and interaction. The conference targets cultural policy makers, employees of cultural and creative industries, communication scientists, cultural and artistic actors as well as computer scientists and engineers who conduct research and development on cultural topics.
The contributions collected in this volume discuss multifaceted approaches towards the theme "culture and computer science" and analyse, demonstrate and, in particular, discuss problems, research and developments around "Cross Media". The 26 different papers from authors of 12 countries offer in-depth insight into fundamental theories as well as best practice applications of information, communication, interaction, visualisation, virtual and augmented reality, audio technology, multimedia, streaming and data processing within a specific cultural context.
The contributions analyse and discuss the following key topics:

- Cross Media technology, tools and applications,
- Best practice Cross Media examples,
- Interdependence between culture and computer science,
- Influence of art and culture on future developments,
- The media-compatible treatment and enhancement of information,
- Intuitive usage of media systems,
- Digitalisation in the cultural and creative industries,
- Visualisation and interaction technologies,
- Interactive systems in cultural and creative industries,
- Municipal and touristic information systems,
- Digital exhibitions, science centres, museums and galleries,
- Virtual reconstructions,
- Augmented reality,

- Multimedia guides and
- Ethics in culture and computer science.

Based on best practice examples, developments and requirements are represented in the areas of cross media publishing, use of data sets for multiple purposes as well as the visualisation and interaction in exhibitions, science centres, museums and galleries. To present content only in the form of texts, films and stories no longer matches the requirements of the audience. Instead, there is a high demand for new technologies such as virtual and augmented reality, digitalisation, streaming and 3D visualisation as well as a combination of visual and interactive elements. Most users will not only consume but also participate actively in the exhibition and interact with it. A major focus in many papers is how added value can be created through technical innovations.
In addition to the five invited keynote papers more than 50 papers were submitted. Each paper was reviewed by three different members of the international programme committee. Our thanks go to the members of the programme committee for their assistance in reviewing the numerous submissions.
The international programme committee selected 21 papers and grouped the contributions together with the five keynotes into the areas:

- Culture in a Digital Society,
- Visual Worlds,
- Content & Search,
- Cross Media Technology,
- Audio & Cross Media,
- Cross Media Applications and
- A Pecha Kucha Session.

The abundance of possibilities, which users have in the present multimedia environment, virtual and real worlds, confronts both planners and computer scientists with new challenges. In order to allow cultural institutions to create a social environment instead of isolating themselves, new knowledge spaces need to be established without neglecting the aims of imparting knowledge and cultural education. The papers in this volume will present different approaches and best practice examples to meet these challenges.

This and the previous editions of the series “Culture and Computer Science” are only possible with the continuous support by the “Alcatel-Lucent-Stiftung“. We thank in this context particularly the staff and the curators of the foundation for their long-standing, collaborative and fruitful cooperation.
Further thanks go to the staff of the “Staatlichen Museen zu Berlin” and particularly the Bode Museum, in whose premises we hold the conference “Culture and Computer Science – Cross Media”. The special atmosphere of the surroundings will certainly continue to have a lasting effect on all speakers and participants. Representatively, we would like to thank Dr. Stefan Weber and Bernd Rottenburg from the “Staatliche Museen zu Berlin“ for their support of and engagement with the conference.
This and all previous conferences “Culture and Computer Science”, as well as this publication, would not have been possible without the commitment of the staff and colleagues of our research group INKA at the University of Applied Sciences HTW Berlin. Representatively, we would like to thank Tom Buhrtz, Katharina Müller and Désirée Wündisch.
However, our special thanks go to all authors. Without their creativity, ideas and hard work it would not be possible to run a wonderful conference and to produce these very interesting and inspiring proceedings.

Berlin, May 2015
Carsten Busch and Jürgen Sieck