

**Carsten Busch / Christian Kassung /
Jürgen Sieck (Hrsg.)**

Kultur und Informatik

Hybrid Systems

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^{**} Humboldt-Universität zu Berlin
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Content

- 7 Preface
- 11 Hybrid Media Practices in Everyday Life
Christoph Bareither
- 13 How Can Hybrid Environments Increase Access to Unseen Content and Create Memorable Visitor Destinations?
Paulo Pimentel, Lucie Branczik
- 27 Look Again: Augmented Reality as a Time Travel Tool
Giovanna Casimiro
- 41 Classical Concerts in Virtual Reality with Multiple Views and Ambisonic Audio
Julien Letellier, Jürgen Sieck, Michael Thiele-Maas, Annette Thoma
- 59 Diving into Immersive Audio – The Power of Dynamic 3D Audio for Storytelling in the Cultural Space
Lars Mylius, Eva Wesemann
- 71 Volumetric Video for “The Master’s Vision”
Peter Kauff, Ingo Feldmann, Oliver Schreer, Ralf Schäfer, Georg Tschurtschenthaler
- 87 Research in Motion – VR as an Archaeological Tool
Erika Holter, Una U. Schäfer
- 99 Use of Data Analytics for Enriching Public Spaces with Unique Experiences of Localised Cultural Heritage Content
Georgios Artopoulos, Kåre Synnes, Alfonso Bahillo, Carlos Smaniotto Costa, Nataša Rebernik
- 113 Marbles of Remembrance – Conceptualizing and Implementing a Chatbot for the Hackathon Coding da Vinci
Leonardo de Araújo, Nina Hentschel, Adrenn Kovács
- 125 Memories – A Concept for an Interactive Projection Mapping Installation
Hagar Elazari & Angela Brennecke

- 131 Becoming a Member of a Virtual Orchestra with Motion Recognition
Mykyta Kovalenko, Svetlana Antoshchuk, Volodymyr Brovkov
- 147 What's the CLOU? – Prototypes for a New Journal Format by the
Interdisciplinary Laboratory Image Knowledge Gestaltung
Kerstin Germer, Maja Stark, Tiago da Costa e Silva, Kerstin Remes
- 159 Using Cuboid Markers for an Interactive Augmented Reality Exhibition
*Peter Scholl, Stefan Schöbinger, Albrecht Sensch, Jürgen Sieck,
Elisabeth Thielen*
- 175 Being here|being there – being in|between
Experientiality, bodily presence and empathy in Karim Ben Khelifa's
VR Documentary The Enemy
Anna Wiehl
- 187 The Jackal and the Wolf: Adapting a Namibian Cautionary Tale into a
Virtual Reality Game
*Niels Anders Beckmann Stok, Denisa Formácková,
Emilie Ørtoft Høllede Pedersen, Kasper Rodil*
- 201 A Formal Visual Model to Capture Stories Told from Multiple
Perspectives
Kai Groetenhardt, Ulrike Spierling, Kathrin Neurohr
- 213 Mixed Reality Supported Voice Training for Lecturers of Large Classes
Kathrin Hohlbaum, Valerie Stehling, Max Haberstroh, Frank Hees
- 225 The Interrelationship among Components of Crowdsourcing
Pakhee Kumar
- 239 Ionic and AngularJS: Frameworks for Developing Interactive &
Location-based Museum Hybrid Systems
Herman Kandjimi, Hippolyte Muyingi
- 253 Towards Collaborative Sketching in Distributed Virtual Environments
Patrick Fehling, Florian Hermuth, Johann Habakuk Israel, Thomas Jung

Preface

Culture and Computer Science – Hybrid Systems

According to Bruno Latour's analysis of today's societies, we are living in a hybrid world. The distinction between nature and culture, between the non-human and the human, and between reality and construction has collapsed, since we, being hybrids ourselves, cannot live without media or tools. Hence, the question is raised why the discourse on hybridity has recently become so prominent. If deficiency has always been a strong part of the human motor, why should we be more hybrid today than e.g. in the 19th century? Or, to put it the other way around: why is the computer more than a mere medium or tool?

One possible answer seems to be clear. Although nature and culture have always been interwoven in hybrid networks of human and non-human actors, modern digital and hybrid networks interact now in real time with the consequence that the difference between receiving and creating information has become obsolete. When a dentist scans a decayed tooth in order to »print« a denture, they mesh up this data with countless data from other patients in order to create an optimised model. But they do nothing artificial. They do, what nature has done over millions of years before. Or if we use a VR device in order to explore an exhibition, we not only consume some pre-existing content. With every step through the exhibition we create new content. The objects of a museum are no longer just prerequisite but also they have an effect on our interaction with them. Objects are how we interact with them and at the same time how they interact with us as well as with the surrounding space. We are influenced by objects in a similar way as we influence objects. Hybrid systems, their analysis, use, design, their advantages and their critical moments are the focus of the 16th edition of the "Culture and Computer Science" conference. 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.

In this field, the contributions collected in this volume represent multifaceted approaches towards hybrid information processing strategies. The authors of

this international volume analyse, demonstrate and discuss current research strategies and developments around “Hybrid Systems”. The reader will find an extensive overview of best practice applications of information management, communication, interaction, visualisation, mixed, augmented and virtual reality, audio technology, multimedia, streaming and data processing, and design within a specific cultural context.

The contributions analyse and discuss the following key topics:

- Hybrid systems;
- Augmented, Mixed and Virtual Reality;
- Best practice Augmented, Mixed or Virtual Reality applications;
- Analogue and digital exhibition design;
- Collections – Exploitation, design, exhibition and conveyance;
- Crowd Sourcing technology and applications;
- Technologies for hybrid systems;
- 3D technologies;
- Digitalisation in the cultural and creative industries;
- Visualisation and interaction technologies;
- Interactive multimedia solutions for museums, theatres, concert halls, exhibitions etc.;
- Virtual reconstructions;
- Location-based and context-sensitive services in a cultural context;
- Documentation, visualisation and interaction in museums and archives;
- Digital storytelling;
- Multimedia guides with Augmented Reality components and
- Ethics in culture and computer science.

In addition to two invited keynote papers, more than 40 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 18 papers and grouped the contributions, together with the two keynotes, into the areas:

- Hybrid Media in Daily Life;
- Audio in Hybrid Systems
- Mixed and Augmented Reality in Archaeology;

- Hybrid Systems;
- Virtual Reality;
- Collaboration in Hybrid Worlds and a
- Hands On Session.

This and the previous editions of the series “Culture and Computer Science” are only possible with the continuous support by the “Staatliche Museen zu Berlin”. We thank in this context particularly the staff and the curators of the “Kunstgewerbemuseum”, in whose premises we hold the conference “Culture and Computer Science – Hybrid Systems”. The special atmosphere of the surroundings will certainly continue to have a lasting effect on all speakers and participants.

In particular, we would like to thank Prof. Dr. Sabine Thümmler and Konstanze Hausstätter from the “Staatliche Museen zu Berlin” for their support of and engagement with the conference.

Our special thanks go to all authors, without whose creativity, ideas and hard work it would not be possible to run a wonderful conference and to produce these very interesting and inspiring proceedings.

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. In particular, we would like to thank Kerstin Remes, Elisabeth Thielen, Julien Letellier and Michael Thiele-Maas.

Carsten Busch, Christian Kassung and Jürgen Sieck

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