

360° Video Storytelling and Virtual Reality Workshop

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ABSTRACT

The purpose of this joint workshop is to bring together a diverse group of researchers and practitioners for focused discussion and knowledge sharing in 360° video storytelling and virtual reality.

Author Keywords

Virtual Reality; Television, 360 video streaming; Storytelling

ACM Classification Keywords

Human-centred computing---Human computer interaction (HCI)---Interaction paradigms---Virtual reality;500.

INTRODUCTION

The purpose of this joint workshop is to gather together a diverse group of researchers and practitioners working in 360° video storytelling and virtual reality. During the morning session, researchers from three different institutions present an overview of their work on VR and the practical and theoretical issues that they have been confronted with. Five participants will then be invited to present the paper that they have sent in for this workshop. In the afternoon sessions, participants can choose to focus on one of the three workshop themes that are introduced below. In the final part of this full day workshop, all researchers will join forces again to discuss the outcomes of their explorations.

Virtual Reality Workshop

In virtual reality, embodiment seems to be an active topic of discussion among the engineers, scientists and the artists and designers. From a new media perspective, the questions

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emerge such as how much attention should we pay to the user? How to ‘construct’ a working vision of who the user is? How does this affect the way we work (e.g. the way that we gather data and the way this might influence the resulting applications?). These are interesting questions to ponder when developing user studies in virtual reality. In this session we will use participatory design method to generate a research and development agenda; the research questions that we must answer and the techniques and designs that we would like to invent in order to maximize the value of integrating user’s active engagement and virtual reality environment. Therefore, we will investigate themes about embodiment in VR including aspects of cognitive enhancement, physical sense and interaction between multiple bodies and agents.

Virtual Reality Meets Television

In this session we aim to collaboratively develop an (imaginary) concept for a VR experience that could accompany an existing television show. This workshop is intended for both students and professionals working in creative industries. During the session, the focus will be on developing and analyzing concepts and narratives, rather than on dealing with technical issues. By discussing the ‘do’s’ and ‘don’ts’ for producing VR content we will gather insights into how different audiences may engage with VR and how virtual reality can be used to create mixed media experiences that allow audiences to enjoy their favorite television shows from a new perspective.

360° Video Streaming & Storytelling Workshop

360° streaming covers the content preparation, delivery and consumption of 360° video material. 360° video can be consumed on any device, whether it’s a head-mounted display (HMD), TV set or a second-screen device. This part of the workshop addresses the challenges heterogeneity of devices, network characteristics and interaction methods. For example, streaming latency and user input are different for a HMD than for a TV set. 360° storytelling is also a topic addressed in this workshop. It starts with the recording of the video using an array of cameras and useful viewing directions and ends with the way that the 360° video is

presented to the user. 360° storytelling can for example be enhanced with interactive overlays or voiceovers. The workshop will discuss this challenge together with innovative storytelling concepts, tools and players to guide and direct the viewer in a 360° video on the different kind of playback devices and by considering the different input capabilities of these devices (motion, remote control, keyboard, mouse, device orientation, etc.)

SUBMISSIONS AND CONTRIBUTIONS

The workshop features a list of different activities – including regular presentations on the topics in 360° video streaming, storytelling, VR, immersive experience, and its creative applications, and interactive group-work. The workshop concludes with a panel discussion in which we discuss future opportunities of immersive media. Authors were asked to submit a short paper (2,000 – 4,000 words) in the extended ACM abstract format. Submitted papers have undergone a peer-review process.

DISSEMINATING THE CALL FOR CONTRIBUTIONS AND ATTRACTING PARTICIPANTS

We distributed the call among a diversity of networks worldwide involving art, design and digital media technologies including the following: Aalto University and other Nordic institutions; ACM Siggraph Digital Arts Community; Ars Electronica; Cumulus art and design network; Leonardo and Laser networks; PhD Design List; W3C; EU projects.

WORKSHOP ORGANIZERS

Lily Díaz-Kommonen (a.k.a Lily Díaz) is Professor in New Media at Aalto University, School of Design, Art and Architecture. Since 1998, she leads the Systems of Representation research group that works in areas such as visualization and design of interfaces for virtual reality. She is currently on the editorial board of *Journal of Visual Arts Practices* (Taylor Francis) and associate editor for *She-Ji. The Journal of Design, Economics and Innovation* (Elsevier). In her work she seeks to combine anthropology and new media to promote human-centered design and works primarily with qualitative methods, including design research. See also <https://people.aalto.fi/lily.diaz>.

Mirjam Vosmeer has an academic background in media psychology, communication science and film studies. In 2013 she started her VR-research project *Interactive Cinema* at the Amsterdam University of Applied Sciences. As coordinator of the Interaction & Games Lab in Amsterdam, she strives to connect academic research, education and local industry partners within the field of VR. In 2016, she received a grant from the Dutch government to set up her research project *Storytelling for 360 Media*, in collaboration with the Dutch Film Academy. Since 2018, she is also affiliated with the Norwegian Film School in Lillehammer as PhD-coach for VR projects.

Ji-Hye Lee is an interactive media experience designer and researcher. Currently she works as a creative director at

Media Lab. Seoul. She holds PhD in Film and Digital Media Design from Hong Ik University in Seoul, South Korea (2015), working as a visiting professor in Seoul National University of Science and Technology and a visiting researcher in Aalto University (fall, 2017). She has published several journals in a field of convergence between AR/VR, design and UX research including *Investigating Socio-cultural Specificity of Mobile Augmented Reality* (2017), *Context-based Design Methodology For Augmented Reality Contents* (2017), and *Augmented Reality and Art* (2018 Spring). Currently she is leading several governmental projects regarding use of digital technologies in the cultural sector.

Stefan Pham studied Computer Science at the Technical University of Berlin (TUB). He received his diploma degree (Dipl.-Inf.) at Fraunhofer Institute for Open Communication Systems (FOKUS) in 2011. Currently, he is employed as Senior Project Manager at the Business Unit Future Applications and Media (FAME) and specializes in the R&D of topics dealing with Internet-delivered media, TV and cross-platform Web apps. He has been involved and managed various industry as well as publicly funded projects.

Louay Bassbouss is a scientist and senior project manager R&D in the business unit Future Applications and Media (FAME) of the Fraunhofer Institute for Open Communications Systems (FOKUS) in Berlin. his diploma degree in computer engineering from the Technical University of Berlin in 2008. His main research focuses on developing future web technologies in the fields of cross-device & cross-platform applications, 360° video streaming and rendering technologies and Web of Things. Louay has actively participated in many standardization activities by W3C and HbbTV (Hybrid broadcast broadband TV) especially in the W3C Second Screen Working Group and HbbTV 2.0 Companion Screens Task Force. He is also a test facilitator of the W3C Presentation API.

Andrea Mancianti is a composer, performer and media artist mostly devoted to work with real-world phenomena (sound, movement and space) and digital tools. Holds an MA in composition and music technology (2012, Conservatory of Florence) and a BA in Philosophy (2006, La Sapienza, Rome). He also participated to the IRCAM's *Cursus 1* in Paris (2013-2014). Currently he is a PhD candidate in the Department of Media, of Aalto University, Helsinki, researching embodied performative applications of VR. With media artist Roberto Pugliese is a founding member of *quietSpeaker* studio, a duo creating audiovisual performances and interactive installations. His works have been performed in Europe and USA, for institutions such as Ircam (Paris), Biennale Musica (Venice), Impuls and KUG (Graz), Muziekcentrum De Bijloke (Ghent), Centre Henri Pousseur (Liege), STUK (Leuven), Boston University, Nuova Consonanza (Roma), Sibelius Academy (Helsinki) and others.