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Workshop on Intelligent Cinematography and Editing

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EUROGRAPHICS 9th Workshop on Cinematography and Editing (2020)
M. Christie, H.-Y. Wu, T.-Y. Li and V. Gandhi (Editors)

Keynote
When Virtual Reality Editing Meets Network Streaming

Lucile Sassatelli

I3S, Université Côte d'Azur, France

Abstract

The question of designing editing cuts to drive the user's attention in cinematic Virtual Reality (VR) has been under active investigation in the last few years. If driving the user's attention is critical for a director to ensure the story plot is understood, attention driving techniques are also under scrutiny in a different domain: the multimedia networking community. The development of VR contents is indeed persistently hindered by the difficulty of accessing them through regular streaming over the Internet. In this talk, I will show how driving human attention can inform the design of streaming algorithms for VR. I will specifically present two such approaches, combining networking, human-machine interaction and editing. I will finally show how such interdisciplinary approaches open new directions of research to design network- and user-adaptive streaming algorithms for immersive contents.

EUROGRAPHICS 9th Workshop on Cinematography and Editing (2020)
M. Christie, H.-Y. Wu, T.-Y. Li and V. Gandhi (Editors)

Keynote
Reinventing movies: How do we tell stories in VR?

Diego Gutierrez

Universidad de Zaragoza, Spain

Abstract

Traditional cinematography has relied for over a century on a well-established set of editing rules, called continuity editing, to create a sense of situational continuity. Despite massive changes in visual content across cuts, viewers in general experience no trouble perceiving the discontinuous flow of information as a coherent set of events. However, Virtual Reality (VR) movies are intrinsically different from traditional movies in that the viewer controls the camera orientation at all times. As a consequence, common editing techniques that rely on camera orientations, zooms, etc., cannot be used. In this talk we will investigate key relevant questions to understand how well traditional movie editing carries over to VR, such as: Does the perception of continuity hold across edit boundaries? Under which conditions? Do viewers' observational behavior change after the cuts? We will make connections with recent cognition studies and the event segmentation theory, which states that our brains segment continuous actions into a series of discrete, meaningful events. This theory may in principle explain why traditional movie editing has been working so wonderfully, and thus may hold the answers to redesigning movie cuts in VR as well. In addition, and related to the general question of how people explore immersive virtual environments, we will present the main insights a second, recent study, analyzing almost 2000 head and gaze trajectories when users explore stereoscopic omni-directional panoramas. We have made our database publicly available for other researchers.