The Synthetic Cameraman Series: A Practice-based Research Case Study

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Abstract

The talk presents the conceptual goals and artistic methods behind a series of artworks (*The Synthetic Cameraman Series*) that constitutes the practice-led component of the author's Ph.D. research. The talk provides a brief overview of the practice-based research method in relation to our research on new types of content and aesthetic conventions that emerge out of the capabilities of real-time computer graphics and 3D virtual environments. The talk focuses particularly on the importance of artistic exploration and experimentation that can complement purely theoretical research methods in new media and software studies.

Research Supplemented by Artistic Practice

We have formulated two main objectives for our practice-led research. First, it explored the creative boundaries of designing different representational techniques for a single real-time environment created within the Unity 3D software media ecology that allows for a deep customization of the implemented visual styles (Objective 1). Second, the artworks illustrated that by taking advantage of the modular and processual materiality of a virtual scene, from one side, and of a diversified and customizable ecology of tools, from the other, one can design new types of hybrid content with programmable and dynamic aesthetics that can transgress the boundaries of any single medium (e.g. video games, CG animations, etc.), and that the content can go beyond media respective aesthetic conventions and cinematography techniques (Objective 2).

Transgressing Medium Boundaries

(Objective 1) Each of the artworks offers a radically different camera-based representational model of the virtual environment that changes the way the scene is experienced by the audience. In *The (Cinematic) Synthetic Cameraman* we focused mainly on the representational aspect of virtual cameras, and on their impact on the way a virtual scene can be visualized. Despite all the manipulations on the camera's visual feed, *The (Cinematic) Synthetic Cameraman* is a procedural self-perpetuating but non-interactive visual spectacle. Neither the camera nor the user of the application has any impact on the materiality of the environment. In other words, the deep, processual manipulations imposed onto virtual cameras greatly influence the representational process and thus, the way the scene is perceived by the viewer, yet, not even a single object in the environment is altered by the very presence of virtual cameras, which remain mere capturing devices. On the other hand, *The (VR) Synthetic Cameraman* explores the co-creative and formative potential of virtual cameras, turning them, and consequently, also the user of the application, into active actors that control not only the representational process but can influence the way the eruption is unfolding.

(Objective 2) *The (Cinematic) Synthetic Cameraman* draws from remediated photorealism, however, thanks to the affordances of programmable real-time graphics, the artwork produces hybrid aesthetics that goes beyond any typical representational spectrum or convention while still retaining the general representational function of virtual cameras. *The (VR) Synthetic Cameraman* both explores and questions the potential of seemingly unmediated and raw insight into a virtual scene, by combing a user-controlled,

first-person-view camera with its role as an actuator impacting the environment. Bolter and Grusin make the distinction between what we could call FPV (first-person point of view) and a DPV (directed point of view), arguing that a photograph or a perspective painting gives the viewer a reconstituted creator's point of view, and film or a TV gives her a dynamic, external point of view, an embodiment of the camera movement and settings (Bolter and Grusin 1999, 231).

Using this conceptual lens, we argue that real-time design workflows and the affordances of real-time graphics, make it possible to visualize a single spatial, CGI-based, real-time environment using both paradigms. *The (Cinematic) Synthetic Cameraman* follows a DPV approach with sophisticated cinematography, where a generated representation of the scene is beyond the control of the viewer. Conversely, *The (VR) Synthetic Cameraman VR* follows an FPV approach, which delegates control over the point-of-view to the immersant. However, thanks to the affordances of real-time graphics, both of the implemented paradigms incorporate hybrid features and elements, such as procedurally generated cinematography and camera-based aesthetics in *The (Cinematic) Synthetic Cameraman*, and user-controlled triggers that impact both the representational process and the scene in *The (VR) Synthetic Cameraman*. Our artistic exploration has revealed that a unique entanglement of combined affordances granted by real-time computer graphics from one side, and by a general-purpose game engine from the other, not only causes the line between DPV and FPV to be blurred but even transgressed.

A Case for Practice-based Research

In our presentation, we will illustrate how a practice-based research approach created new perspectives and contexts for an in-depth and nuanced understanding (Coemans and Hannes, 2017, 34-49; Franz 2010) of the object of study. We will present how it contributed to the final research results with a highly contextualized practice-rooted knowledge (Skains 2018, 82-97) and "new understanding about practice" (Candy 2006) by "generating novel apprehensions," which relate to both senses and the intellect (Scrivener 2002). We will present how the discussed artwork series had a functional role for our theoretical conceptualizations, providing as illustration and evidence in support of a theoretical argument communicated through other means—research results presented as academic papers and a Ph.D thesis (Grennan 2015; Douglas, Gray, and Scopa 2000).

References

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Biography

Dr. Lukasz Mirocha is a new media and software theorist and practitioner working with immersive (XR) and real-time media. More on: https://lukaszmirocha.com.