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Negotiating the coming together of live-action and animation: Virtual production and the creative process of the short film A Future Vision of Trauma Care.

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<https://vimeo.com/507069746>

INTRO/ERA RESEARCH STATEMENT

Title: Negotiating the coming together of live-action and animation: Virtual production and the creative process for the short film *A Future Vision of Trauma Care*

Joe Carter, Sorin Oancea, Mark David Ryan, Maria Zelenskaya, Tfer Newsome, Steven Mohr

Abstract

The 5-minute short film *A Future Vision of Trauma Care* is the outcome of a research project funded by the Jamieson Trauma Institute, Royal Brisbane and Women's Hospital. The research team were approached by the JTI to produce a short film that created a futuristic vision of what trauma care may look like in 2030. The practice-led research at the core of this project was inspired by the virtual production (VP) process adopted by the large budget television series *The Mandalorian* (2019), using LED (Light Emitting Diode) screens and volumes to generate virtual sets that allow for the replacement of physical sets, characters and objects with digital substitutes. Behind the scenes footage from *The Mandalorian* (2019) propagated an overly sanguine view of VP's potential and it shaped widely held beliefs that filmmakers from one-person teams and low-budget independent filmmakers to large scale productions can easily adopt VP. This led to a view in the field of film practice that VP will soon replace traditional live-action film production and the approach is easily implemented by practitioners without large budgets and funding for technical support. A research team from Film, Screen, Animation, at the Queensland University of Technology (QUT) – comprised of screen practitioners and researchers – set out to produce a short film to examine the workflow and efficacy of low-budget VP. In particular, the research examined the implications of a VP workflow for the live-action and animation directors collaborating on set.

Research statement

Research background

Virtual production technology has been available to screen producers for over a decade. Yet, following *The Mandalorian's* (2019) release, as well as the screen industry's disruption during the COVID-19 pandemic in 2020, VP was widely heralded as a revolutionary technology that will transform traditional film/television production. VP – utilising real-time technology – reconfigures the linear and largely separate processes of live-action filmmaking and animation/post-production into a non-linear, real-time process. By using real-time camera tracking, compositing and LED volumes, filmmakers can place real actors and physical props into virtual sets with digital characters and objects. However, to date there is limited practice-led research into the realities of the physical workflows of low-budget VP.

Research contribution

A Future Vision of Trauma Care interrogated the efficacy of VP workflows using an LED screen for a low-budget production without substantive technical support, and the implications of simultaneous live action filming and post-production for the live-action and animation director. The non-linear processes of VP create productive but challenging collaborations between live action production and post-production teams who do not normally collaborate on set. With a real client brief, deadline, and budget, the production team encountered significant

technical and practical challenges, but also uncovered new opportunities for storytelling through immersive digital environments and spatial mixing. VP converges the two cinematic logics and associated workflows of live action filming and animation. The film's co-directors, one with a background in live action, the other a background in animation, found that working with mixed reality *mis en scene* necessitated new approaches to directing unique to VP influenced by temporal, physical, and budgetary constraints. While achieving realism is often critical for VP, budget limitations shaped CG aesthetic choices. Creating digital actors that avoid the Uncanny Valley effect and believably interact with live actors remains a prohibitively expensive proposition, and particularly difficult for real time platforms. Negotiating these limitations along with the constraints of the live set and limited graphic processing capabilities, necessitated the adoption of an aesthetic combining minimalism, decimated realism and realism to maintain efficient real time workflows while delivering a cohesive and visually engaging narrative.

Research Significance

The project received \$15,000 in external funding from the Jamieson Trauma Institute. The project resulted in:

- Significant national media coverage across broadcast, print and online print media.
- A research presentation at the 2021 ASPERA Conference, in June, 2021; the premiere national conference for practical film production research and education.