

FTV469498

Workflows for Virtual Production with Remote Teams

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Learning Objectives

- Discover developing plans for restarting production using virtual tools.
- Learn how to design new workflows for geographically remote teams to plan and execute technically sophisticated productions.
- Learn how to use newly developed tools to perform remote location scouting and physical production planning.
- Develop shared VR workspaces and tools to plan and execute VFX-heavy production.

Description

How can film and TV production move forward in the age of social distancing? This talk will explore a case study of a workflow under development by a broad team of studio production executives and technology partners. We will describe new capabilities in virtual production tools and system architectures to perform as much work as possible remotely using game engines, cloud services, virtualization, live LED wall projections, live motion-capture sessions, large-scale volumetric location scanning, and workgroup platforms.

Speaker



Hardie Tankersley
VP Visualization Solutions – Silverdraft
Hardie is a veteran builder of products at the intersection of entertainment and technology. Hardie has held previous roles as the Senior Vice President of Innovation at Fox and delivered new products around streaming and connectivity. He is currently on the forefront of developing high-quality commercial-grade immersive visualization applications for design, marketing, and storytelling.

Overview

How can Hollywood get back to work in a COVID era?
How can we use real time 3D rendering to deliver VFX in camera, unleash creativity, and create efficiencies for production?

Storytelling and the Magic of Illusion

Visual storytelling through the stage, film, and TV is all about creating magic and the illusion of taking the audience to an imaginary place.

History of Matte Painting

Traditionally, matte paintings were made by artists using paints or pastels on large sheets of glass for integrating with the live-action footage. The first known matte painting shot was made in 1907 by Norman Dawn who improvised the crumbling California Missions by painting them on glass for the movie Missions of California. Notable traditional matte-painting shots include Dorothy's approach to the Emerald City in The Wizard of Oz, Charles Foster Kane's Xanadu in Citizen Kane, and the seemingly bottomless tractor-beam set of Star Wars.

Digital Twins of Fictional Worlds

Virtual Production is bringing a revolution in video production and storytelling. With the advent of real time photorealistic rendering we can digitally create and interact with a simulation of a stage, a location, and an imaginary world, all at the same time.

Digital Workflow

Modeling in Maya -> Real Time Rendering in game engine

Process: Inversion of VFX timeline

VFX now has to happen before production instead of after.

Process: Previs has a new cycle

Process: Safety Vis

We can use a 3D capture of the production location, whether a stage or set or city to plan the precise placement of cast and crew to ensure proper social distancing.

Volumetric Production with real time LED Wall

Technologies: high performance rendering, game engine, large scale displays, motion capture. All integrated in real time to display the virtual world for the camera to capture, the cast and crew to see, and to project proper lighting on the set. This requires a complex set of technologies to interact that have not been completely integrated before.

Technology: Unreal Engine is getting better at quality in real time. Lots of tools are being built on the platform such as virtual cinema.

Technology: Large Scale Location Scanning

We can now capture a photoreal 3D model of a location, building, neighborhood, or city. And we can bring that location into a real time environment, match it to the set, the art, and the camera so that we can shoot a scene that appears to be in a city that we can't go to, or ancient pyramids, or exotic forests or deserts that are impractical to visit.

Case Study: The Lion King, The Mandalorian

The Lion King VFX

<https://youtu.be/iw96ZN6e9vw>

The Mandalorian Season 1 VFX

<https://youtu.be/gUnxzVOs3rk>

Case Study: Ripple Effect

<https://www.rippleeffectfilm.com>

A project based at the Entertainment Technology Center at USC

An experiment in researching and developing workflows, tools, and process for this new era in virtual production.