CREATING NEW EXPERIENCES FOR 3D VISUALIZATION WITH NVIDIA OMNIVERSE

Image courtesy of Epigraph

Built on USD and NVIDIA RTX technology, Omniverse helps Epigraph easily manage 3D assets and render faster, enhancing design workflows, collaboration, and productivity.

Image courtesy of Epigraph

SUMMARY

> Epigraph creates physically accurate 3D assets and engaging product experiences for e-commerce and often does multiple iterations throughout the design process.

> The team wanted a solution that helped them render and iterate faster, while also streamlining their design workflows.

> Epigraph chose to use USD from the beginning, as it helped the team efficiently manage all their assets — leading to natural synergies with the NVIDIA Omniverse platform.

> With Omniverse's ultra-fast advanced RTX Renderer running on NVIDIA RTX A6000, Epigraph can render project models at final-frame quality faster while significantly reducing the number of computational resources needed.

INTRODUCTION

Epigraph builds scalable, customizable and engaging customer experiences in 3D and augmented reality, innovating how customers interact with products. The team at Epigraph continues to find innovative ways for their clients to interact with products and designs, from making customizations in real-time to viewing products using augmented reality (AR). But with all the assets they have to create and manage, combined with completing projects under tight deadlines, Epigraph needed a solution that allowed them to simplify design workflows while still delivering high-quality visualizations for their customers. Using NVIDIA Omniverse™ and NVIDIA RTX™ A6000, the team leveraged the platform's advanced features to achieve faster rendering times, streamlined workflows and enhanced productivity.

CHALLENGE

The team creates visual content for multiple platforms, from augmented reality to virtual photography. But creating multiple variations of a 3D model can be time-consuming. The Epigraph team often iterates during the design process. They typically need to complete projects in a short span of time and accommodate last-minute changes from clients. With so many different assets and model variations to create, using Universal Scene Description (USD) was Epigraph's first choice from the beginning, as it helps the team encapsulate product variants and efficiently manage them. So when **NVIDIA Omniverse** open beta was first released, Epigraph wanted to explore the platform and see how it could simplify their production process while continuing to use their favorite design applications from Adobe, Pixologic, Blender, and others.

CUSTOMER PROFILE

Image courtesy of Epigraph

SOFTWARE

NVIDIA Omniverse

Adobe Substance

Blender

Zbrush

HARDWARE

NVIDIA RTX A6000

REASONS FOR NVIDIA

> The foundation of Omniverse is USD, which is an integral part of Epigraph's **product design** pipelines.

> Using NVIDIA Omniverse™ Create, the team can use their preferred creation applications and easily convert assets to USD, increasing productivity.

> Omniverse also allows Epigraph to collaborate on the same models in real-time from different office locations.

> NVIDIA RTX A6000, built on the latest NVIDIA Ampere architecture, helps Epigraph achieve faster rendering, so they can iterate more quickly without worrying about increased render times or missing project deadlines.

SOLUTION

While Epigraph was exploring real-time rendering technologies, Omniverse was a solution that was still close to an offline rendering pipeline. Because other solutions required Asset Optimizations to achieve the renders in an acceptable amount of time with the same level of detail needed, Omniverse was the clear winner.

With help from BOXX Technologies, Epigraph was able to experience faster rendering in Omniverse with the **NVIDIA RTX A6000**. Built on the latest NVIDIA Ampere architecture, the RTX A6000 delivers powerful performance for rendering, enabling creative professionals to handle complex models or large datasets easily.

Epigraph continued to use their preferred design applications such as Adobe Substance, Zbrush, and Blender for asset concept, modelling, sculpting, and texturing - and enhanced their workflow with the collaborative abilities of Omniverse using Omniverse Connectors.

Additionally with Omniverse, Epigraph benefitted from built-in USD integration, enabling them to easily export-import FBX and glTF assets into USD by using the platform.

"When we saw that Omniverse uses USD as the core format, it was the perfect solution to most of our requirements," said Bruno Guerreiro, Co-Founder and CTO at Epigraph. "On top of that, the real-time and path-traced mode with support for Material Definition Language is truly standardizing the production process, since most content creation apps we use support those formats."

Image courtesy of Epigraph

REASONS FOR NVIDIA

> The additional features of Omniverse, including DLSS, RTX, and path-tracing technologies, help the Epigraph team enhance content creation and productivity.

"When we saw that Omnvierse is using USD as the core format, it was the perfect solution to most of our requirements. On top of that, the real-time and path-traced mode with support for MDL is truly standardizing the production process."

Bruno Guerreio,
Co-Founder and CTO at Epigraph

RESULTS

With Omniverse and NVIDIA RTX, it was easy for Epigraph to do interactive reviews with the client. The platform helps them reduce iteration times and allows them to be more creative with their designs, as they can complete tasks and final frame-quality renders faster than before.

Epigraph says rendering an image in 8K resolution would typically take several minutes. However, when they used Omniverse RTX Renderer, Epigraph could render that same 8K image in 12 seconds with the RTX A6000.

Along with faster render times, Omniverse provides an ecosystem that allows Epigraph to collaborate in real-time from any location, so they can accelerate design reviews and creative workflows and bring multiple industries together. "This is brilliant because talents from across the domains can now be able to collaborate and share the knowledge, helping everyone grow at the same time," said Caleb Dermyer, Epigraph's Co-Founder and COO. "We believe it will also help expand global USD adoption."

Additionally, Epigraph expects they'll be able to reduce costs as they no longer need a traditional CPU render farm and instead, they can use a single GPU render node. Epigraph expects their energy footprint to reduce as their productions will significantly consume less computational resources, allowing designers around the world to focus less on technology and more on creativity.

And with Omniverse having built-in NVIDIA DLSS, RTX, and path-tracing technologies, Epigraph can enhance design workflows and boost productivity.

Epigraph continues to explore Omniverse and its capabilities, including using NVIDIA Material Definition Language (MDL). The team plans to start implementing MDL in production workflows, and build their own extensions to enhance processes like batch rendering.

To learn more about NVIDIA Omniverse, visit: **www.nvidia.com/en-us/omniverse**

For more information on Epigraph, visit: **www.epigraph.us**

www.nvidia.com