Arvizio Launches Augmented Reality Hybrid Rendering

Arvizio has introduced new capabilities to its enterprise XR platform with GPU-accelerated hybrid rendering to stream massive 3D models and Lidar scans to multiple participants on mobile AR devices.

The latest Arvizio XR release includes fully automated 3D model optimization and hybrid rendering for large and complex BIM and CAD 3D models, Lidar scans and photogrammetry models with multi-model alignment to allow multiple objects to be placed in a scene. For example, buildings and machinery may be positioned within a point cloud and visualized as a combined experience.

Customers using Arvizio's XR platform can import more than 30 spatial data formats, including numerous design and modelling tools, Lidar scans and photogrammetry models. The XR platform also offers seamless integration with Autodesk BIM 360, allowing models to be imported and visualized in augmented reality on location.

Point clouds and large 3D models can present challenges due to the high number of points or polygons that must be rendered, well beyond the CPU and GPU limits of mobile devices. Through a combination of dynamic level of detail processing and GPU-accelerated rendering, Arvizio is able to stream industrial scale models to mobile devices and tablets as well as augmented reality headsets. The advent of 5G networks and edge-based computing delivers the increased bandwidth and low latency required for a new level of on-site multi-user XR experiences.

Factory Lidar scan, 400 million points, and City of Melbourne photogrammetry scene, 70 million polygons, streamed to iPad from the Arvizio XR Platform using hybrid rendering.

3D Visualization Everywhere

The ability to stream massive models and point cloud data to iOS and Android mobile devices dramatically expands stakeholder participation in collaborative sessions, allowing shared experiences that combine mobile devices and augmented reality headsets. Users of Arvizio's Immerse app for mobile AR will enjoy user-friendly, interactive capabilities including real-world alignment at scale and the ability to teleport into their content for life-size walk-throughs. Content can be shared and synchronized across all types of devices.

A special aspect of the Arvizio XR platform is operation in standalone, edge or cloud-based environments. Arvizio's hybrid rendering solution can be deployed on a laptop, edge computing server or cloud-based server, allowing 3D visualization in situations where internet connectivity may be limited.

"Customers can now enjoy more efficient project planning by visualizing their content at the project site using their mobile device," said Jonathan Reeves, CEO at Arvizio. "The ability to visualize, interact with and navigate 3D point cloud, photogrammetry and CAD or BIM content streamed to smartphones and tablets improves project risk assessment, accelerates project completion and significantly improves operational efficiency."