

HoloLive3D AR App Visualizes 3D BIM on the Job Site



Along with their plugin to push BIM models from Revit directly to HoloLens, software developer [VisuaLive3D](#) has released HoloLive3D, an application that loads BIM, places them in the real world in true 1:1 scale, and allows users to perform BIM coordination, QA/QC, field validation and clash detection, even without any internet connection.

The application provides additional features such as Scale, to scale the models up/down for office presentations; and Measure, which works as a virtual measuring tape to gather data on existing conditions or compare model content to find deviations between the design and the as-built.

VisuaLive3D's plugin can be used to place the models in the real world and predefine a reference/survey point in the BIM, and then HoloLive3D can be used to click on the same point in the field. From there, HoloLive3D aligns the model in the proper location. Another way is to define a QR Code in the reference point through the plugin, so HoloLive3D scans it, and it automatically loads the BIM in place.

Alignment Accuracy

VisuaLive3D President & CEO Saeed Eslami said that VisuaLive3D has improved the accuracy of the HoloLens mapping technology by increasing the density of the maps—including creating more surface triangles—as well as refreshing the map at a higher frequency than the HoloLens to revise the map with greater speed. He also told us that VisuaLive3D has developed a more powerful mathematical averaging formula, and even leveraged deep learning AI. “We definitely work on this every day,” he said, “as accuracy is the number one priority for us.”

Dealing with Big Models on a Mobile Device

When using a high-density BIM, the HoloLens systems can become slow and hard to use. VisuaLive3D faces this problem using a processing optimization method, so the software compresses any large 3D model content to a smaller and more efficient file format, which enables HoloLens to load large models in only a few seconds. Eslami said, “For example, the Revit sample model is a full house with all model elements and details, and it loads only in 2 seconds in our app! A full mechanical room with all MEP elements loads only in 5 seconds!”

Final Details

Although VisuaLive3D's plugin works with Revit models only, it's possible to import AutoCAD models through the plugin to Revit and then to HoloLens.

The HoloLive3D application is now available in the HoloLens Microsoft Store for free. Users need to request a license for the [Free Trial](#), which includes access to full tutorial videos and documents to work with. The application's licensing works on a subscription-based system, and discounts are available based on the number of users and license period.

In the meantime, the company is working on upgrading its software, adding new features, and creating more plugins for all major software within the AEC industry. They are also working on two other applications for 3D models visualization: MobiLive and VRLive.