

Virtual Architec

Custom home designer uses Adobe® Acrobat® 3D to increase productivity and reduce cost by more than 90%

Virtual Architec

www.virtual-architec.com



Industry

Architecture, Engineering, and Construction

Challenges

- Enable reliable, easy exchange of complex 3D models among technical and non-technical users
- Facilitate collaboration without complex viewers or plug-ins

Solution

- CAD interoperability and design collaboration
- Virtual Architec is using Adobe Acrobat 3D with Cadsoft Envisioneer to deliver reliable, interactive 3D models in Adobe PDF, improving collaboration among designers, builders, and buyers.

Results

- Shortened conversion time of 3D models from 10 hours to less than 1 hour
- Reduced costs by 90%
- Shortened design-build cycle
- Minimized construction change orders thanks to clearer collaboration
- Enhanced client satisfaction with easy access to 3D models in compact Adobe PDF files

Systems At A Glance

- Adobe Acrobat 3D
- Platform: Microsoft® Windows® XP

Sustaining customer engagement

With cancellations of home construction orders at an all time high, builders and developers are looking for ways to keep buyers engaged. At the same time, homebuyers increasingly want to see more useful, interactive images of their home designs, long before construction crews ever break ground.

“Adobe Acrobat 3D helps bring the worlds of designers, builders, and buyers closer together,” says Ed Staelens, president of the building design firm Virtual Architec. “By showcasing home designs as interactive 3D models in Adobe Portable Document Format (PDF), we’re seeing buyers that are more excited—and committed—than ever.”

Equally important, everyone involved in a building project can easily view the Acrobat 3D PDF files and provide input early in the design process, eliminating costly changes and design-build errors later on. “Buyers, designers, and builders can work together to keep costs in check and projects on schedule, making the whole process more profitable and efficient,” says Staelens.

Overcoming collaboration obstacles

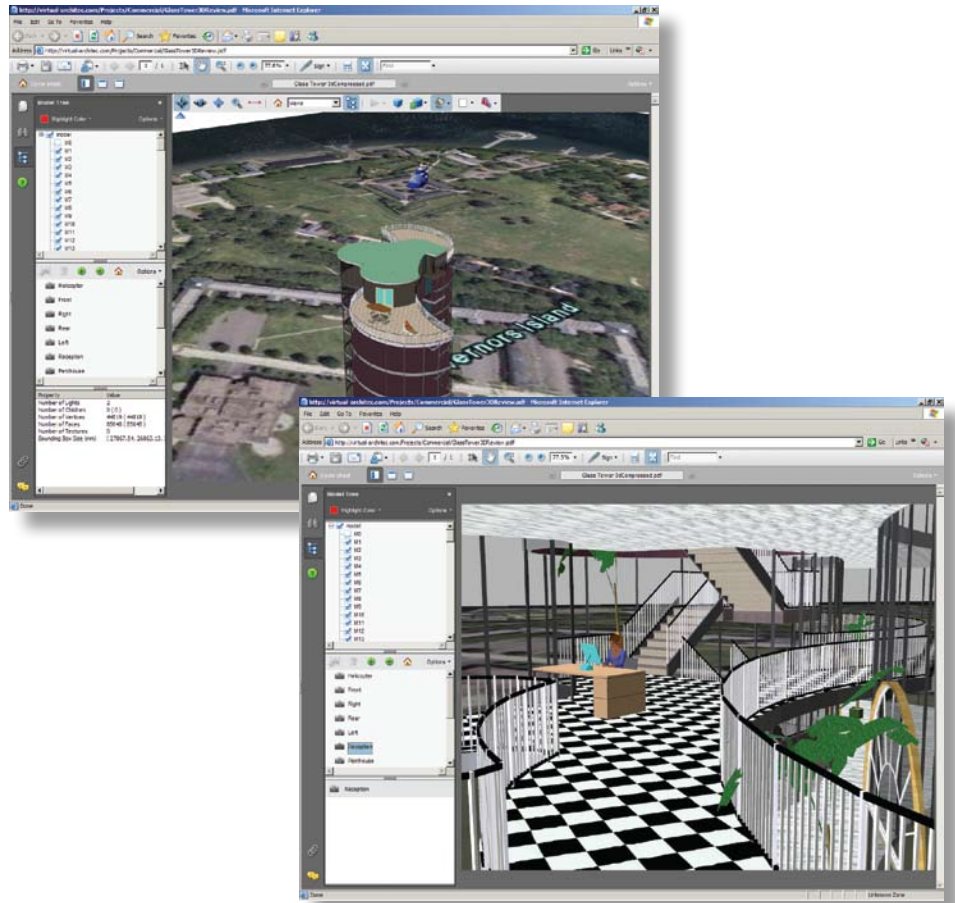
With extensive experience in the building trades, Virtual Architec specializes in working with builders, homeowners, and dealers to design custom homes. Using Cadsoft Envisioneer software, the team of designers creates building designs and blueprints for a wide variety of residential construction projects.

An important goal for the firm is facilitating more effective collaboration among stakeholders by enabling people to visualize building projects in greater detail and virtually walk through structures. Adobe Acrobat 3D proved a perfect fit for meeting the firm’s objectives, as well as those of its clients.

Prior to adopting Acrobat 3D, Virtual Architec’s staff spent an inordinate amount of time creating 2D renderings of 3D models and shipping them to clients. The packages were costly to mail and customers had difficulty correlating all the separate views of blueprints, elevations, and renderings. And of course, distributing documents could take days. As a result, it was challenging for teams and clients to quickly get a comprehensive look at projects.

According to Staelens, Cadsoft does a great job at parametric drawing but falls short when it comes to creating 3D models accessible to a broad audience. Models created with Envisioneer can be viewed with an Envisioneer reader, but using the plug-in can be complicated. As well, textures on designs typically do not export well to other 3D formats, requiring Virtual Architec designers to rework 3D models by hand.

Virtual Architec uses Adobe Acrobat 3D to deliver reliable, interactive 3D models in Adobe PDF. The layered Adobe PDF files enable recipients to view different elements of a structure and virtually walk through a building. Using free Adobe Reader software, reviewers can look at projects from all angles, zoom in and out, and highlight areas of concern if necessary.



“It’s incredible. We can use Acrobat 3D to create interactive Adobe PDF files containing complex 3D models in less than an hour, instead of eight to ten hours using other software. It reduced our cost for the process by more than 90%—and had an even bigger impact on staff productivity.”

Ed Staelens,
President,
Virtual Architec

“Taking a completed, complex model and converting it to 3D would take eight to ten hours with our previous software,” explains Staelens. “In most cases, it was too cost-prohibitive to attempt. When we did try to convert a model to 3D, the result was usually cumbersome and not very compelling.”

The team also tried exporting to VRML files, but found the final files were too large and recipients still needed to download special viewers and were then forced to learn how to use unwieldy viewer plug-ins. Virtual Architec wanted a simpler, more reliable, easy-to-use solution for sharing and viewing large 3D models.

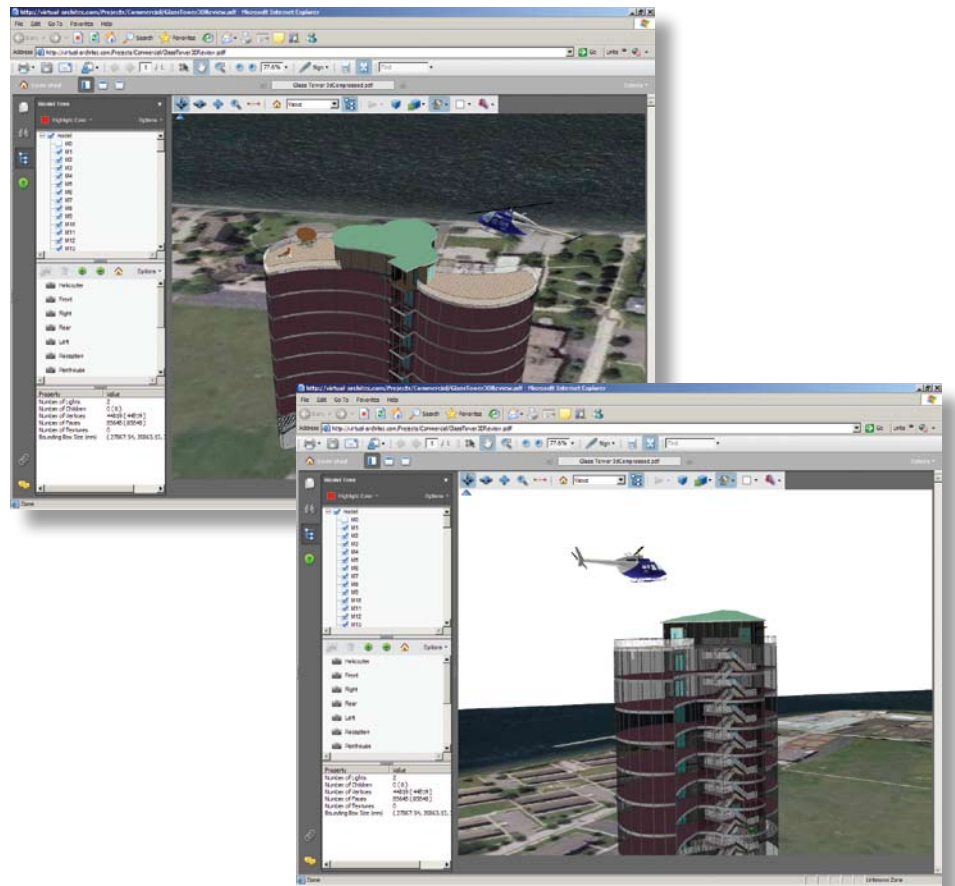
Accelerating design review

With Acrobat 3D, Virtual Architec designers can accurately and rapidly convert Cadsoft 3D designs to platform- and application-independent 3D models in Adobe PDF. The resulting 3D PDF files show exactly what a project will look like inside and out, and 3D models are instantly ready to upload to the website, no further editing required.

“It’s incredible. We can use Acrobat 3D to create interactive Adobe PDF files containing complex 3D models in less than an hour, instead of eight to ten hours using other software,” says Staelens. “It reduced our cost for the process by more than 90%—and had an even bigger impact on staff productivity. I fully expect Acrobat 3D to change the architectural design industry once everyone understands what this easy-to-use tool can do.”

When draft plans are ready, the team sends out designs as 3D PDF files to the builder, homeowners, and other parties that need to comment. The layered Adobe PDF files enable recipients to view different elements of a structure and virtually walk through a building. Using free Adobe Reader® software, reviewers can look at projects in 3D PDF from all angles and zoom in and out, highlighting areas of concern if necessary.

With Adobe Acrobat 3D, Virtual Architect designers can accurately and rapidly convert Cadsoft 3D designs to platform- and application-independent 3D models in Adobe PDF. The resulting files show exactly what a project will look like inside and out, and is an excellent way to visually convey floor plans, elevations, construction details, surface textures, and other details.



“With everyone looking at the same, reliable 3D PDF files, we’re all literally on the same page no matter how dispersed the team is,” says Staelens. Typically, a project team will participate in two design reviews using 3D PDF files. In addition to not requiring costly or complicated viewing software, the 3D models in Adobe PDF are a fraction of the size of 3D models in native applications.

After final design decisions are made, Staelens forwards the 3D PDF files to an outside engineering firm to draft the building’s structural components and output final construction documents. The 3D PDF files can contain the precise geometry, PMI, and all other critical data that the engineers require.

For More Information

www.adobe.com/products/acrobat3d/

More satisfied customers

“Acrobat 3D fills a void in the home building industry, where people have different comfort levels with technology and few application standards exist,” says Staelens. “Delivering 3D PDF files is an excellent way to visually convey floor plans, elevations, construction details, surface textures, and other details—down to where trees will be planted.”

For buyers and builders, this translates into more sustained excitement about future homes, from early in the design process through to completion. “Our clients are thrilled to see interactive 3D PDF models of their homes,” says Staelens. “They have the flexibility to show them to their friends, discuss issues with their contractors, and more closely monitor that the house being built matches their expectations.”



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