Virtual and augmented realities

VISUALIZATION DRIVES DESIGN DECISIONS— AND SALES

FOR THE AVERAGE PERSON, VISUALIZING how a living space will look after it is remodeled is overwhelming. It is also a barrier to choosing surfaces and committing to a purchase. Even catalogs, brochures, online photos, colour swatches and physical samples can only go so far towards concluding the decision-making process.

But unlike flying cars and universal translation devices, tools are out there now to assist not only consumers, but architects, designers and contractors with the visualization of a finished project — before it happens.

The two emerging stars of the visualization world today are virtual reality (VR) and augmented reality (AR). VR is the one that exploits a head-mounted display and immerses the user into a totally computer-rendered environment. AR is the one that, like Pokemon Go on a smartphone, superimposes digitally-created objects onto a camera-captured image, often in real-time.

Both VR and AR have their respective advantages and disadvantages, according to Jeremie Ruffino, studio director at LNG Studios. The Vancouver, B.C.-based company is a design and marketing company that assists the architect and designer (A&D) community to convey its designs — and design capabilities — to clients.

“In the VR that we are doing, we have the room scale experience — putting a headset on and you walk into a room,” says Ruffino. “You can walk into your future apartment. But you need a big computer and a room with no furniture so you can walk around without bumping into anything. That experience is really a one-to-one reality.”

AR allows the visualization of a building on an empty city lot, notes Ruffino. “You can walk around that empty lot and see on your phone screen what the building will look like in that place in the city.”

JASON COHEN, DIRECTOR OF DIGITAL experiences at CAD MicroSolutions in Toronto, Ont., believes VR adds an emotional component to the client experience. His company represents Virtalis, a Cheshire, U.K.-based VR platform developer.

“I can demonstrate changes to the room flooring in the VR environment,” says Cohen. “Changing from stone surfaces to wood feels different. It’s not just a 3D trick on a flat screen, but triggers the result of human evolution over thousands of years.”

Ruffino agrees, “If a project is done well in VR people will understand it right away. When you put a headset on and walk in, that is what the project will be.”
You don’t have to explain. The brain does the job. I’m communicating faster and in an easier way.”

VR and AR costs have come down dramatically since the early 1990s when a basic setup cost over $1 million. Only 10 years ago it would cost just over $100,000 and now one single-seat VR hardware and software seat with a head-mounted display can be in the neighbourhood of $5,000 or even less.

These assets costs don’t account for the expertise that A&D professionals bring to the table, however. “These are the best tools that architects can use today,” says Ruffino. “Because a client who spends $10,000 on five renders for an apartment condo realizes it could get sold faster than anything else in the building.”

There is absolutely a cost-benefit analysis case to be made for deploying VR by an A&D client, whether they use LNG’s services or make the capital investment themselves. “And at the beginning of your project, if you make a simple mistake,” says Ruffino, “you will have a $1 million mistake at the end of your project.”

WHEN THE CLIENT is an ordinary consumer and not an A&D firm, there are free, easy-to-use online tools that help visualize a new floor covering in a room, for example. Preverco of Saint-Augustin-de-Desmaures, Que., a manufacturer of hardwood floors, deployed an augmented reality-based visualizer on its website in August this year. With this application, no VR head-mounted display is necessary, only digital photo of a room with the floor visible in the image. The image is uploaded to the website where the visualizer does its magic by replacing the existing floor in the photo with the consumer’s choice from Preverco’s online catalogue.

The flooring visualizer came recommended by Alexanian in Hamilton, Ont., a retailer that had begun to use the web-based application on its site to sell high-end area rugs, according to Etienne Chabot, marketing manager at Preverco. He notes that “some people have a lot of resistance before making their purchasing decision.”

But once they could visualize the area rug in their own room, it made a huge difference. “Because once you have seen it in your room you have 80 percent of the selling job done,” says Chabot.

“It is very similar to hardwood floor sales. I always estimate that 50 percent of the population have no clue of what the product will look like in their room.”

“They buy hardwood floor and they spend thousands and thousands of dollars. So if we could reduce the level of uncertainty attached to buying a wood floor with that tool, we would help that percentage of people who are not able to visualize their own room.”

The online visualizer app, also known as Roomvo, was developed by Leap Tools of Toronto, Ont., a company started by software engineers from the University of Waterloo. To date, it has been deployed in Canada at flooring suppliers Alexanian, Preverco, Evoke and Torlys.

Pawel Rajszel, co-founder and CEO of Leap Tools, says that while consumers can now easily use their smart phones or tablets to see their rooms with different flooring, “our visualizer is making it easier for the A&D community to do their jobs. Instead of spending hours on making 3D renders and mock ups in difficult-to-use software, designers can use our visualizer to immediately show their clients how their space will look. And they can do so with the client right next to them — creating a much more engaging interaction.”

EARLY SALES OF THE VISUALIZER to flooring outlets has led to quicker adoption by carpet retailers in the U.S., according to Rajszel. “The bigger flooring companies are more bureaucratic,” he says, noting that “the rug guys are mostly owner-based, tech savvy and quicker to make a decision.”

“They need to sell online and can appreciate our tool.”

Rajszel believes that visualization is the number one obstacle to making the sale in the flooring industry and that his visualizer “makes it fast and easy to see what your space will look like before making the purchase. As a result, our visualizer helps designers to generate more business, helps their clients make faster and more confident purchase decisions, and ultimately leads to a much better customer experience.”

Preverco had shopped around for five or six years, looking at different apps that could help it sell by providing that virtual experience. “There were always drawbacks,” says Chabot.
friendly user experience or interface. Or the fact that the image renderings on the other systems were not convincing or realistic. There was always the impression that the floor was floating in the picture.

Worst of all, says Chabot, “people were not able to use it the right way intuitively.”

You don’t have to go too far to find apps on websites that are way too clunky for the average homeowner. Both Lowe’s and IKEA, for example, use 2020 interior design software engines to offer room planners for their in-store products, but they are frustrating to use in comparison to Roomvo.

Two years ago Preverco settled on an iPad-only based augmented reality app because at the time “there was no realistic alternative on the market,” says Chabot. Unfortunately, being based on the iPad only was a restriction for users. Not only that, Chabot explains, the AR app became a headache with updating the catalogue to keep it current. “It required a lot of maintenance.”

Luckily for Preverco, the visualizer works on major platforms such as iPhone, Android, iPad and “plain old desktops,” according to Rajszel. Early usage patterns of the Preverco visualizer indicates “people are testing from 15 to 20 different products in one session,” says Chabot. It really works.

“I also heard back from one reseller who tried it with their customers at the store level. The feedback has been tremendous so far. All of our resellers can use it because it is on our website.”

Farming out visualization requirements to a service bureau like LNG Studios can have its advantages for the A&D community. “We go back and forth with the architect,” says Ruffino. “We go back and forth with the designer a couple of times to make sure that the wooden floor looks the right shade of brown. That the reflection looks good enough and that the sunset is in the background. That the people are sharing a glass of wine on the roof.

“You explain (to the client) that you are selling a way of life too. We are selling to a special demographic in the city. There is way more today than just visualizing the project. This is what we are trying to teach our clients step by step. Once they understand that it is easier and even more fun for them.”

THERE IS A TRANSITION — AND TRANSLATION — from project design to marketing, according to Ruffino. “We start to create little stories. We are getting away from just ‘I want to see this colour of paint on the wall.’ We are moving one step forward, so the architect and designer needs us to show more of the project than just the materials. It is an investment in the beginning, but it is worth it. VR is the tool that will last. It will be here for a long time.”

Which platform will really win the day? The future is not certain for either VR or AR in the world of visualization.

According to Cohen, who believes AR has some catching up to do, “there’s an arms race going on in both camps. People are working day and night to improve their platforms.”

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