



Opening the Door to Virtual Reality

By: David Barbour

Agile Lens markets its VR capabilities

With its unparalleled ability at creating the illusion of being in an actual space, virtual reality has long been touted as a possible design tool at theatre design and architecture conferences. Now a new company, Agile Lens, has been formed to harness virtual reality for a number of creative purposes, not least theatre architecture.

The latest addition to the entity that includes the theatre consulting firm Fisher Dachs Associates, the architectural lighting firm Fisher Marantz Stone, and the theatre/film lighting partnership Third Eye Studio, Agile Lens is billed as “a full-service VR design and consulting group specializing in custom solutions.” A company

statement reads, “Since 2013, we have integrated immersive technologies into creative and analytical workflows to better communicate design intent and function. From conception to completion, we’re here to help you and your clients tell the story of your project like never before.”

Joshua Dachs, a principal in Fisher Dachs and “instigator” of Agile Lens, notes that FDA began using virtual reality, via the Oculus Rift headset, four years ago to help clients better understand the details of the spaces that were being designed for them. He adds that donning a VR headset can give one a vivid sense of an auditorium, especially such critical points as

sightlines, long before ground is broken. (The Agile Lens office includes one of every available VR headset, going back to the View-Master, a Baby Boomer touchstone that, Dachs points out, is the spiritual ancestor of VR.)

As far back as the late ‘90s, Dachs and Co. had developed proprietary software for imaging rooms using CAD. In 2013, Alex Coulombe (now Agile Lens’ creative director) read about a form of VR hardware used in the gaming industry, and determined it could be adapted for architectural purposes. The firm made an investment in developing the software, using off-the-shelf products. Interestingly, there are several versions of VR available.

The simplest experience offered by the company, Web VR is viewable on all devices in both VR and non-VR forms, using a web browser. All it requires one to do is click or tap on a link in order to access a 360° view of a project, moving around the image to see it in detail. This feature works on both mobile phones and desktop computers.

Moving on to more sophisticated formats, Coulombe says, “There are two primary categories of VR headsets we have: Desktop VR and Mobile VR [Web VR spans both types of headsets]. Desktop VR requires a computer



Above and below: Agile Lens' lineup of VR headsets.

with a VR-ready graphics card.” Viewable on a number of devices, including the HTC Vive and Oculus Rift, it offers increased graphic fidelity and performance. On the Agile Lens website, one can use this format to view the grounds surrounding the Statue of Liberty Museum, designed by the firm FX Fowle, which is due to open on Liberty Island in 2019, and a design for a project known as “Cliffside Pavilion,” which allows the viewer to toggle between different iterations of the design. In a forthcoming download, for the Stephen A. Schwarzman Center at Yale, the viewer can teleport around the space and even change the lighting configuration.

One particularly powerful demo offered by Agile Lens, called “Theatre Tools,” features a 3-D model of an auditorium interior. Using Desktop VR, the viewer can select any seat in the house: The camera view will zoom there, instantly allowing one to see the stage from that vantage point—thus providing crucial information about sightlines and possible obstructions such as mezzanine or balcony railings.

Mobile VR can be viewed on such Android devices as Google Cardboard, Google Daydream, and Samsung Gear VR; as the name suggests, it is portable, which makes it very handy. Also, it is relatively inexpensive, as it is compatible with many smartphones; in

this version, one simply uses one’s phone, which is attached to a Daydream or Gear VR headset. These apps come with hand controllers, which allow for more interactive experiences. For example, as seen on the Cliffside Pavilion video on the company’s website, one can use the touch pad of the Daydream controller as a gas pedal, clicking on waypoints to arrive at the project; using the controller’s secondary button, one can toggle between a VR sketch, a flatly-shaded model, and the final design. In a Daydream app showing a theatre lobby design, one begins with a stereoscopic rendering of a sketch, then progresses to an untextured massing study and then the complete design, before arriving at what the company calls “a fully interactive spatial experience,” in which interior designers are able to play with different layouts, furniture configurations, finishes, etc.

Comparing the Desktop VR and Mobile VR, Coulombe says, “Mobile VR is more accessible and portable, but the fidelity of the experience is limited and there’s only rotational tracking (no motion tracking). Desktop VR experiences can be much more interactive and photoreal, and the allowance of motion tracking greatly adds to the sense of ‘presence’ in the virtual spaces. Some of the headsets we have we don’t use anymore, because they’ve been replaced by better versions. We keep the old ones



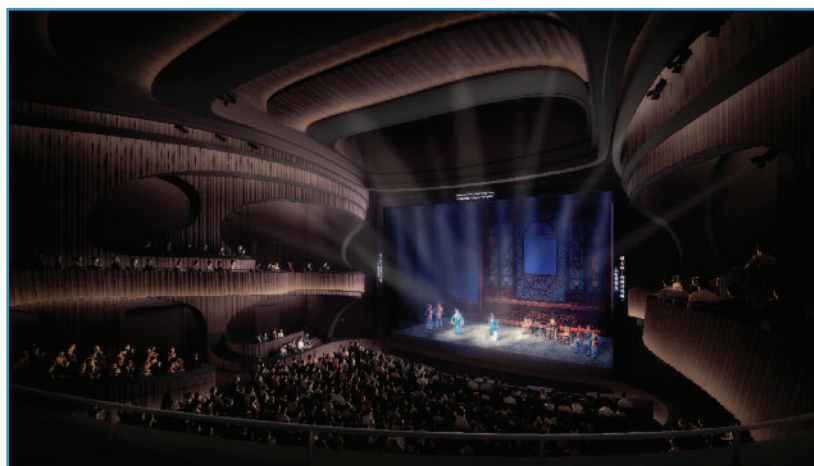
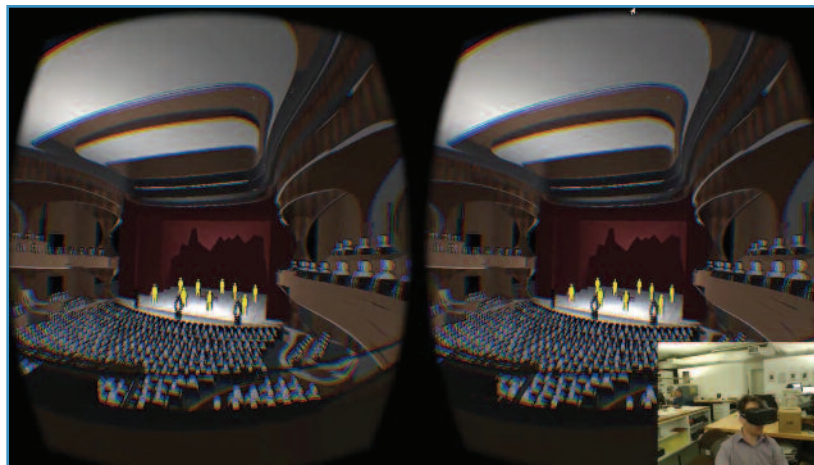
Photos: Courtesy of Agile Lens

around to talk about the history of VR. All the headsets you see in the ‘key headsets’ image (see photo on page 90) currently get used for one reason or another, based on their different pros and cons.”

Whatever version is used, Dachs says, “these are great communication and design tools. When we start designing a space, we work in VR; the architects we collaborate with find our VR models useful to talk about materials and colors. It also really helps our clients understand what is happening with a building.” VR outclasses any previous presentation tool, he adds: “Not everyone can read a two-dimensional elevation or even really understand a 2-D rendering. When you can immerse someone in a space, they totally get it.” Coulombe adds that, with VR, “design discussions become much more nuanced.” In part, this is because the technology, “allows one to play with scale. You can see a building in the context of the city where it is to be built, and yet you can also zero in on the smallest detail.”

A good example would be the West Kowloon Cultural District’s XIQU Centre project (see photos, above and on page 94), which represents an early use of VR in theatre design. Coulombe says, “It’s a curvy and undulating space that was constantly evolving, so VR allowed us to quickly determine what was working and what wasn’t.”

Sensing a business opportunity, Dachs, Coulombe, and “storyteller” Alexa B. Antopol have set up Agile Lens to market VR previsualization capabilities to a variety of markets, including architecture, real estate, and theatre set design, among many others. Dachs says that the trio attended the Theatre Communications Group National Conference in Portland, Oregon in June, offering demonstrations and chances to use Tilt Brush to a variety of designers. “Set designers can use it to check their sightlines,” he says, adding that virtual reality “could also be integrated into lighting previsualization systems.” He also cites pro-



The West Kowloon Cultural District’s XIQU Centre benefited from the use of VR in the design process.

duction design for concert touring—a market where large-scale sets, staging gags, and enormous lighting and sound rigs are the norm—as another potentially fertile sector.

Indeed, in an early Agile Lens project, the team used virtual reality to help situate the epic Kenneth Branagh-Rob Ashford staging of *Macbeth* in New York’s Park Avenue Armory. The production came from the Manchester International Festival in the UK, where it played nightly to 250 people in a desanctified church. The challenge was to figure out how to accommodate 1,000 people without enlarging Christopher Oram’s set or the playing space; trying to fill the enormous Armory Drill Hall while offering an experience for the audience that was similar to the original. The solution involved creating a forbidding

Scottish moor around the playing space that armies of audience members could march across, but there were questions, involving sightlines, which could easily be addressed by previsualizing the design.

Meanwhile, the Agile Lens team is looking to build more custom technologies that will make virtual reality useful in more and more applications for theatre designers—sets, lighting, projections, etc. Potential clients are welcome to visit the office (located in Manhattan’s Chelsea district) and the firm will also set up users’ offices with equipment and software. It seems unquestionable that VR technology will soon become a key part of theatre design. The only thing to wonder about is, how useful will it be in other, ancillary markets. 