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NBA commissioner visits Stanford for lesson in virtual reality

By flying like Superman in Jeremy Bailenson's Virtual Human Interaction Lab, NBA Commissioner Adam Silver was convinced that virtual reality could enhance the game for fans and players.

BY BJORN CAREY

L.A. Cicero

Associate Professor Jeremy Bailenson stands in front of computers that render the virtual world seen through the headset.

Courtside seats at an NBA game are some of the best tickets in all of sports – the game is literally played at your feet. They're also some of the hardest tickets to get, which is why NBA Commissioner Adam Silver and several other executives from the National Basketball Association visited Stanford for a crash course in how they might create similar experiences for fans in virtual reality.

The visit came at the tail end of a sweep through Silicon Valley technology companies that could offer technology-based upgrades to the NBA's fan experience. The executives found their way to communication Associate Professor Jeremy Bailenson's Virtual Human Interaction Lab (VHIL) by way of a tip from the owners of the Golden State Warriors and their marketing team, who have visited the lab several times.

"We were told that [the lab] is a 'can't-miss experience,'" said NBA Commissioner Adam Silver, a few minutes after stepping out of a simulator that let him fly like Superman. "Jeremy exceeded our expectations and opened our eyes to applications that we had never considered."

The VHIL is one of the most sophisticated virtual reality environments in the world, and it consists of a suite of gear that creates immersive virtual experiences. Powerful speakers in the wall and floor – which is made of airplane-grade aluminum – provide the sensation of whooshing wind, or the rumbling from an earthquake. Cameras and motion sensors track the subject's every move. As the user looks around, a closetful of computers regenerates his or her view at 75 frames per second and feeds a video image into an Oculus Rift headset.

The visitors strapped on the headset and experienced a handful of the simulations that Bailenson and his students have devised to investigate aspects of human behavior. They flew like Superman to rescue a sick child, crawled under a virtual table to escape falling boxes, and swam around a coral reef being devastated by the effects of ocean acidification. They then experimented with a few mind-boggling virtual experiences – such as the uneasy effect of having your real-life arm movements control your virtual legs, and vice versa – to get a taste of how expertly designed virtual reality can play havoc on the brain.

Getting in the game

As the NBA visitors excitedly compared notes of their time in the virtual world, they agreed that virtual experiences similar to the ones Bailenson has created could provide a unique fan experience.

In addition to serving the millions of fans in the United States who never get to sit courtside, it could appeal to the NBA's huge fan base in China that never gets to attend a game at all. Maybe fans could even get on the court with virtual players, the executives mused, and participate in replays of famous games or view game highlights as if on the court.

It could give fans a sense of the pressure that players face.

"This could let fans experience what it's like to stand on the free throw line with two seconds left in a tie game and 19,000 people screaming at you," Silver said.

Another focus of Bailenson's work is to investigate how spending time in carefully crafted virtual environments can lead to positive changes in real-life behaviors, work that has been funded by the Robert Wood Johnson Foundation.

"Entrenched behaviors are very hard to change, but in our work we've found that virtual reality is very effective at influencing those behaviors, or generating empathy for people in different situations," Bailenson said.

Silver and the other executives saw potential here as well. If sawing down a

virtual tree can cause people to use 20 percent less paper, as one of Bailenson's experiments has shown, then perhaps adding a virtual component to the NBA Fit public health campaign could help convince people to eat healthfully and exercise, Silver said.

Virtual practice makes perfect

Virtual reality could also improve on-court performance. For many people, public speaking causes anxiety, increased heart rate and a bit of extra perspiration, but Bailenson has run experiments that, over time, help people come in better control of those feelings. He speculated that a modified version of that program could train players – and referees – to keep their cool under stress and make better decisions.

Another of Bailenson's experiments has looked at the effects of having injured people represented in the virtual world by healthy avatars. The experience helps people overcome pain and improve range of motion more quickly. This raised the possibility of team medical staffs using virtual reality to speed players' rehabilitation from injury or, for instance, give them confidence in the sturdiness of a surgically repaired knee.

In yet another project, Bailenson has worked with Stanford's football team to create 360-degree virtual representations of what a quarterback sees after the snap. By giving quarterbacks an opportunity to repeatedly read defenses in the zero-impact space of the simulator, Bailenson and his colleague Derek Belch found that players improved decision-making by 30 percent, and shaved about one second off the time it took them to make the decision.

Silver could see a similar system being beneficial for turning point guards into better passers, or for training referees on the best places to stand to get the clearest view of play.

"From a training standpoint, you look around the play and it's so clear what the best [passing] option is," Silver said after removing his headset. "Players always tell us how they get better by repeating certain situations. This could be ideal training."

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