Damn it, Jim!
I'm a Gamer, Not a Therapist

I built a Holodeck to find out if virtual reality is too real for comfort

by Steven Dow

On the television series *Star Trek*, the Enterprise crew uses the Holodeck to enter perfectly simulated worlds that feel real. Captain Picard and his crew use it to find out more about the relics known as "cars," donning pin-stripe suits and visiting 1940s San Francisco, film noir style. Some computing researchers look to the Holodeck as inspiration for developing tools and techniques to achieve immersive simulations. However, my colleagues at the Georgia Institute of Technology and I wondered, is that what people really want?

Our goal was to illuminate the user experience of immersive simulations, particularly when combined with compelling interactive content. My thesis work provides empirical evidence that, even if we overcome the technological hurdles, many people would still prefer to have distance from virtual reality. How did we come to that conclusion? We actually built a Holodeck.

In our work, called AR Façade, a player, wearing a computer on a backpack and a small display with cameras over their eyes, enters a 600-square-foot physical replica of the virtual apartment from the original Façade, the critically acclaimed desktop-based interactive drama. The player converses with a married couple, life-size animated characters named Trip and Grace, who respond interactively to the player's actions and to whatever is happening in the virtual space. The experience emulates a live conversation: the player might ask about the decorations, get a drink from the bar, or give the characters "air hugs." Meanwhile,

Trip and Grace continually react to the player's speech and gestures in ways appropriate with their quirky personalities. AR Façade is an immersive experience, but one where you are thrown into simulated social situations akin to those in the game *The Sims*.

AR Façade's story revolves around a familiar social situation. As the protagonist, the player quickly realizes that Trip and Grace's marriage is falling apart, and the couple is looking to the player to help them settle their grievances. The outcome of the evening, and thus the simulation, depends on how the player behaves. Sometimes players take sides, sometimes they listen and give advice about how to resolve the situation, and sometimes they get kicked out for belligerence.

The simulation was installed in our lab in Atlanta and at the Beall Center

However, the most unexpected result is that many of those same players preferred the desktop version of the simulation. The was because the perceived distance provided users an emotional barrier. Being in the same space with an arguing couple was too physical and intense. The less immersive interface of the desktop version allowed players to feel free to "goof off," "decide how they wanted to feel," and enjoy the experience from a safe distance rather than constantly feeling "on the spot."

Proponents of the Holodeck vision highlight some good points of artificial reality. We should be able to incorporate our bodies and our worldly intuitions into our interactions with media and space, and not be bound to the mouse and keyboard. Perhaps we'll get to a point where we'll be able to easily combine replicated matter, tractor

The less immersive interface of the desktop version allowed players to enjoy the experience from a safe distance rather than constantly feeling "on the spot."

for Art and Technology at University of California, Irvine. We closely observed hundreds of local citizens and students playing both the immersive and desktop versions of Façade. To our delight, many players exhibited genuine emotional reactions to the scenario in spite of the bulky technological apparatuses they were wearing. For example, one player held her hand out towards Trip, who had just started to interrupt Grace, and yelled, "Shhh! We need to at least let her try to explain!"

beams, and holographic images into computer-generated simulations as a means for recreation. However, before we boldly go where no man has gone before, let us understand the expectations and risks of injecting reality into human-computer interfaces.