Cover Cover Story

Reinventing the virtual world
Can the 'serious games' being developed at Georgia Tech be a force for good?

By Alyssa Abkowitz

So this is virtual reality.

A mount rests on the crown of my head and a small video screen attached to it drops down in front of my eyes. Wires run down my back and attach the video display to a laptop that's carefully situated in an unzipped canvas backpack that weighs down my shoulders. And thick headphones cover my ears.

[image-1]
I'm outside a "room" constructed out of rough cloth held up by two-by-fours, about to play AR/Façade, a game devised professors and students at Georgia Tech. I'm supposed to interact, in virtual reality, with two computer-generated charact named Trip and Grace. Steven Dow, a Tech student with shaggy hair, tells me that the couple is having marital problems should try to serve as an arbitrator for the bickering duo.

"What should I say?" I ask.

"Say whatever," Dow replies. "There are tons of phrases they'll say back to you."

Thousands of sentences have been programmed into the game for Trip and Grace. When I say something to them, a "wizard" – a student who's behind the cloth listening to the conversation – will type exactly what I say into a computer. The computer will then generate a phrase for Trip or Grace to say back to me. As I get ready to turn the doorknob to enter the room and start game, a lean man with jet-black hair walks by.

"I always love watching people as they go in," says Ian Bogost, an assistant professor at Tech who is at the forefront of a n wave in video games. "It's so awkward."

He's absolutely right.

When I walk through the door, Grace appears right in front of me on the video display, and it gives the true illusion that standing together. She is a svelte woman with dark, cropped hair and piercing blue eyes, an animated character that is humanlike. Her husband walks up to join us; Trip is lanky, with sandy-colored hair. He wears a green long-sleeved shirt with drab gray pants.

The virtual room exactly mirrors the "real" room I've stepped into. There's a leather couch in the center of the room, a w bookshelf and a small entry table with a portable phone. Pictures of the couple adorn the walls, and wine glasses sit atop a bar. Everything looks real, and is real, except for Trip and Grace.

Grace invites me in and asks me if I'd like a drink. It takes me a second to muster the courage to speak. After all, what do yo say to someone who doesn't really exist? Finally, I shyly tell Grace I'd like some white wine.

The "wizard" behind the set must have not heard me, because Trip walks over from the corner and offers me a martini.

Grace glares at Trip and then turns toward me. "Do you like the new curtains?" she asks.

"Grace, I told you they look fine," Trip snaps before I can even get a word in.

Their eyes narrow at one another, so I jump in and ask Trip how work is going.

That's a bad move.

Grace whirls around and accuses me of flirting with Trip.

"Are you kidding?" I reply. "That's ridiculous."

She shakes her head and now puts me under her glare.

I'm suddenly so nervous that my hands start to sweat. I'm being punked by a virtual character. I can hear laughter from the people inside the lab who are watching this curious interaction. From their point of view I'm talking to thin air. I feel like an idiot.

I'm flustered. Game over. I tell Trip and Grace I must go.

"Fine," Grace says as I turn and step out the door.

I take off the video head mount and headphones and see a handful of people giggling. My face is flushed. They ask how it was, and all I can do is smile sheepishly and tell them it was a really surreal experience. Bogost chuckles. He sees this every day in his work.

But for me, my entree into the reality of the future stands as one of the most unnerving experiences I've ever had.

IAN BOGOST, 30, confesses that he has 11 video-game consoles hooked up to his TV at his Decatur home.

An assistant professor at Tech's School of Literature Communication and Culture, he also is the co-founder of the intown studio Persuasive Games, where he develops games and helps define the cutting edge of a new movement in the industry. His work is lauded by fellow gaming scholars, who call it groundbreaking. "Ian has a rigorous critical attitude and it comes across in games," says Tracy Fullerton, co-director of the Electronic Arts Game Innovation Lab. "But they also have his dry sense of humor. They're very ironic."

Since 2002, he's meshed the unlikely worlds of academia and gaming to produce "serious games" – video games that aren't just for entertainment, but deal with real-world political and social issues.

"Video games are doing more things, creating more kinds of responses and reaching more kinds of people," Bogost says. "People are having experiences and reactions that are meaningful."

Video games are often perceived as brain-draining flights of fantasy that have no meaning beyond escapism. And that's reason enough for gaming giants, considering the industry takes in more than $7 billion a year. But Fullerton, Bogost and others "serious games" movement argue that there can be much more to video games than mindless entertainment.

"The person sitting at home reading grocery-store romance novels is just as perverse as the one who's playing Final Fantasy or World of Warcraft all day," Bogost says. "But video games can represent the kind of world in which everyone lives. They can show how that world works."

In late March, Bogost spoke on a variety of panels at the "Living Game Worlds III: Playing with Reality" symposium. The daylong event, hosted by Georgia Tech, drew video-gaming experts from as far away as California and Canada to discuss games that aren't just for fun. Many came with their own "serious games."

Ayiti: The Cost of Life, for example, makes players budget a Haitian family's finances while they struggle to get out of poverty and get an education. Why-Flu, which is funded by the Centers for Disease Control and Prevention, simulates a flu outbreak teach children the importance of a vaccination. Darfur Is Dying requires players to find water in the Sudan at the risk of being caught – and potentially raped and killed – by the rebel militia. Other games featured at the symposium help autistic children learn to cross the street, help researchers understand what makes marijuana users crave pot and teach teens about the American Revolution.

"Video games are ways of manipulating symbolic systems," says Janet Murray, director of Tech's graduate program in digital media. "They're ways of understanding the world."

"Serious games," also known as "reality games" or "news games," are expanding the definitions of gaming and creating a whole new genre that advocates think could spawn activism and change. Consider it video gaming with a purpose.

Already, more than 800,000 people have downloaded Darfur Is Dying. And approximately 4 million individuals have downloaded a game released by the United Nations that demonstrates the difficulties in dispensing aid to war zones. Those are the kinds of numbers generated by commercial hits such as Grand Theft Auto and World of Warcraft, and it's a positive development to those who hope such games might eventually gain acceptance in the commercial industry.

And the virtual reality of Trip and Grace represents only the beginning of the next generation of video games. Developers imagine a spooky world where such games can be used as a substitute for reality.

"The games that are just over the horizon are going to make the current video-game environment look harmless," Murray says, with a wry chuckle. "We're due for a whole new wave of panic."

THE   EXPERIMENTAL   GAME   LAB
at Georgia Tech boasts a bevy of computers and game systems such as a Nintendo GameCube, Sega Genesis and Xbox 360. Popular games such as Guitar Hero II and Civilization sit on top of a black cabinet that holds at least 100 more.

It's a gamer's paradise.

In the corner of the lab, Bogost squats next to a few of his graduate students and rubs his eyes. They're having technical difficulties with the NASA-funded game they're developing. It's called Selene: A Lunar Creation Game. The purpose of Selene (named by NASA after the ancient Greek moon goddess) is to teach middle-school students about the moon's formation. In the game, a player earns points by collecting falling debris from the sky to create the moon. Then the player inserts craters, lava and air vents to learn about the moon's geology.

"I sort of expected this to go south," he tells his students. "But I think we're still in decent shape."

They listen as Bogost details what needs to be done by the end of the week: Background sounds must be compressed to smaller files, the falling objects must coalesce when a player catches them, and the labels for lava and craters must be simpler.

"I'm a little nervous," Bogost says. "The more progress I see, the better I'll feel."

[image-2]
Creating video games was never the life Bogost imagined for himself. Five years ago, he was a graduate student in California, poring over a comparative-literature thesis. In his spare time, he ran the tech arm of a large consulting company. He always wanted to meld his love for literature with his interest in video games, but didn't know how – no one had ever really done something like that before. "I was the weird intellectual with the wacky ideas that weren't practical," Bogost says.

Finally, he took a radical chance. He quit his job at the consulting company and retooled his thesis topic to focus on game criticism. What's the value in trying to understand video games? What do they symbolize? Can they have meaning beyond pure entertainment?

Finding the answers to those questions has propelled Bogost into a unique echelon of the gaming world. At Persuasive Games, he constructs what he calls "virtual editorial cartoons" – short, satirical games that you play once and then put away. So far, he's developed games about the ban on liquids at airport security, the E. coli spinach outbreak and the escalating price of gas. He's produced a game to raise awareness of political voting blocs, and a game that mocks the stampede of people who storm the malls for Christmas shopping.

"He makes games very fast, so they're not very deep," Fullerton says. "But if they were too deep, they wouldn't be common anymore."

His games, which can be made in about a week, have drawn scorn from seasoned gamers who yearn for complicated adventures where you can spend 14 hours trying to jump to the next level. On the gaming blog the Forge, a gamer writes: "I have to say, I have never had much interest in what some people like to call 'serious games' and my lord does [Bogost's games] ever do a good job of reinforcing that lack of interest. You know what a serious game is to me? World of Warcraft. Seven million players and hundreds of jobs. That's serious."

Once, a judge at a gaming festival handed Bogost a review sheet on his game Disaffected, which parodies unmotivated workers at Kinkos. The review started with, "This game is not fun because" and then listed at least half a dozen reasons why it sucked.

"That's exactly the closed-mindedness we run into all the time," Bogost says. "Gamers are really a pain in the ass. They have these preconceptions about what a game is and isn't."

But such criticism drives Bogost to develop more games that say something about the way we live, to prove his critics wrong.

And that's exactly what he's done in Fatworld.

THE IMPETUS for Bogost's latest game came from a snippet in the hugely popular Grand Theft Auto: San Andreas.

In San Andreas, the player represents a '90s inner-city gang member who goes home to solve his mother's murder. To do that, he must eat healthy and stay fit to be able to run away from other gangsters and build street credibility from other gangs. Yet the only places to eat in the game are fast-food joints. "I looked at that tiny, almost seemingly unimportant dynamic and realized that the game was accounting for how well a player ate," Bogost says. "But it didn't give the player an opportunity to eat well."

Bogost took that minute detail and created a socioeconomic game funded by the Public Broadcasting Service and the Independent Television Service on the politics of nutrition.

In Fatworld, you construct a character (right down to the skin color, food allergies and genetic predisposition) to be a restaurant owner. You must decide whether your character buys a nice restaurant or a cheap fast-food joint to franchise. And your decision affects other characters in the game, which can only eat at your restaurants.

As the game progresses, you buy health care out of a vending machine (Bogost's subtle commentary on the state of modern-day medicine), and you can even create radical laws that ban fruit or saturated fats.

"I want people to make really bad decisions," Bogost says. "They can find the edge conditions and see how the world would change based on those decisions."

But the biggest challenge with Fatworld, which hits the streets this summer, and other reality games boils down to this: Can they find a mainstream audience?

IMAGINE   THAT
you've just finished one of the final stretches of the Tour de France. A day stands between you and the finale on Champs-Elysees. You're faced with a decision: Do you inject some testosterone to ensure that you win the race?

Or imagine a city where birth control is banned. How does a teen mother balance her baby's (or babies') health with a job, school, and still socialize with her friends?

Or what would the nation be like if Barack Obama were president? Or John McCain? What would happen if Obama created a path for illegal immigrants to become citizens? Or what would happen if McCain lowered taxes and improved schools? And how would those decisions affect your life? "Are you going to provide more social services and charge us less for them?" Bogost says. "Because that just doesn't add up. A game can show you that."

Answering such questions by playing games is just the start of his ambition. But first he has to overcome obstacles imposed by the industry.

His problem is simple: There isn't shelf space for "serious games" the way there is for special-interest books at Barnes & Noble or foreign films at the video store. If the "serious games" industry cannot find a way into the mainstream marketplace, these games will be relegated to the subculture of a business-to-business industry, much like textbooks.

Bogost has already begun to explore alternative paths to get his games into the hands of the public.

[image-3]
Several websites, such as ManifestoGames .com, have become portals for "serious games." And Bogost has turned to the Web as an alternative distribution system for his games. He's in the final stages of negotiations with two major news organizations (the details of which he can't yet divulge) to create video games for their websites that could serve as optional multimedia sidebars to feature stories.

If the deals go through, Bogost says it will take "serious games" directly to their target audience: "We're going to people consume news and saying, 'Here are some games, too,' rather than going to the gamers and saying, 'Here's some news.'"

I'M BACK WITH Trip and Grace.

After my initial failed try at AR/Façade, I want another crack. This time the backpack doesn't feel as heavy, the head mount isn't as clumsy. I know what's coming: When I knock on the door, Trip and Grace will pop up on the video display and create the illusion that we're in the room together. Trip answers the door this time and says it's good to see me.

"How's everything going?" I ask.

"Great," Trip replies. "Let me show you the pictures from Italy."

He walks over to a framed photo and tells me they just got back from a second honeymoon to celebrate 10 years together quickly reminds me that I'm the one who introduced them to each other in college, and thanks me.

"It wasn't a honeymoon, more like a weekend getaway," Grace says dryly. "And everything was crumbling in Italy. The buildings were so old."

I've been inside less than two minutes and they're already snipping at one another. I laugh to break the tension, and gently Grace that the historical significance of the country is what makes it special.

When Trip offers to make margaritas, Grace gets aggravated. "Not everyone likes to drink your classy drinks," she snaps.

"Well, fine, then why don't we have merlot," Trip replies in an annoyed tone. "I know I don't have to even ask you but I will: Grace, would you like some merlot?"

"Sure," she says.

Trip pours three glasses of wine. He walks over to me and I reach out to take the wine; even though the glass is virtual, through the video display I can see my real hand grasp it. As Trip walks over to Grace, I ask what happened during our last encou "Grace, why did you accuse me of flirting with Trip last time I saw you?"

She stares at me, but doesn't say anything until she offers me a seat on the couch. I ask again. And again, she doesn't answer.

Trip asks me if something is wrong. I tell him no. He doesn't respond and stares at me for what feels like a very long time before he speaks again. "I think it's time for you to go," he says, finally.

"Wait, I just got here," I protest.

"Please leave now," he says. Grace nods her head.

Even though I was prepared to really play the game this time, I got punked again by Trip and Grace. After all, that virtual reality *is* their reality.

Later on, I realize that, in truth, I actually "won" the game. My goal was to bring them together and, in the end, I did. They finally agreed on something – even if it was to kick me out of their house.

ⓘ **info**	To play some "serious games," visit Ian Bogost's site.