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## My Avatar, My Self

Pick a virtual body and hang out in a massive simulated world: it may be the future of online interaction.

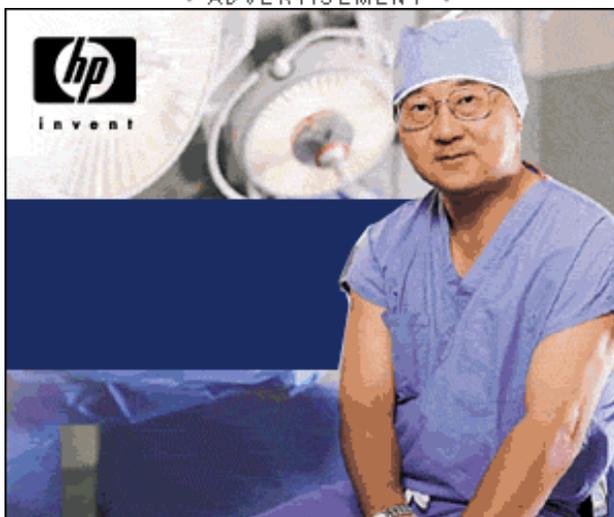


Illustrations by Tomer Hanuka

By David Kushner  
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It's a quiet day over here. The ground outside my window is caked in snow. The driveway is icy, the car waiting to be freed. Short of the UPS guy or maybe the neighbor walking his twin dachshunds, the chances of chatting up someone about last night's episode of *Curb Your Enthusiasm* seem slim.

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But as always, there's plenty happening over There. The dune buggy racers are kicking up dirt on their way to the track. The hoverboarders are flying. A surfer dude flirts with a raver in a halter top and neon green micro shorts. And Lexxa, someone who has greeted me within seconds of my materialization, is offering to show me the way to the spa. "You look like you could use a makeover," she says.

I don't take it personally. She's referring to my avatar—the character I've chosen to represent me on-screen. I'm in There, the most ambitious virtual world yet. Created by a coterie of programmers, Silicon Valley moguls, and Hollywood animators, who have raised about \$37 million (and endured at least one round of layoffs), There is a big gamble on one little idea: that the future of online communication looks like a video game. But it's not a game. People don't come here to battle dragons or ogle Lara Croft. They come to hang out. They come to socialize. And they come for the hot tubs.

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Over the years, the quest to build a compelling virtual world has been a case study in vaporware. Lame graphics, clunky design, and ghost-town populations have all but shattered the dream of a real-life Metaverse. But times have changed, insist the creators of *There* and *Second Life*, a competing virtual world launched last summer. They contend that technology, business, and culture have finally caught up with expectations. Instant messaging and e-mail are middle-American mainstays. Broadband use is on the rise. Computer processors are fast and cheap. “We made some bets years ago,” says Will Harvey, the Stanford University engineer who in 1998 founded Menlo Park, CA-based *There*. And now, he says, “we’re fortunate that those bets turned out to be true.”

For people like Harvey, this is more than just another fad; it is a whole new style of online personal interaction that could become as commonplace as e-mail. “When we imagine 10 years out,” he says, “the time people will be spending on the Internet will be inside a rich visual medium. There’s going to be some underlying platform that’s making that possible. We think we’re making it.” Then again, if you had just wagered millions of dollars, you’d put on an optimistic face too.

Over at the spa, Lexxa helps me reconfigure my avatar. A few clicks bring me to a full menu of options for modifying my appearance. I lengthen my nose and broaden my chin. With another click, I ditch my default khakis for a pair of Levi’s. When I ask Lexxa what she likes so much about being here in *There*, the text of her answer fills the word balloon over her head without hesitation. “It’s the people,” she says.



### To Game Or Not To Game

Virtual worlds are certainly nothing new. Science fiction writers from Ray Bradbury to William Gibson have long imagined them. Early denizens of the Internet experimented with them in the form of “multiuser dungeons,” or MUDs—fantasy role-playing exchanges acted out through online text messaging. Cartoon-style chat worlds like the *Palace* and *Worlds Away* had a go in the mid-1990s but never quite caught on.

More recently, massively multiplayer online computer games, such as *EverQuest* and *Asheron’s Call*, have picked up the slack by emphasizing team play and community. Participants meet in these fantasy-themed online worlds not to compete but to hang out. As a result, one of the missing links that

caused earlier virtual worlds to crumble seems to be emerging: an audience. According to the technology research firm IDC, 87.3 million people will be playing online games in 2004. Around 400,000 are paying \$13 per month to play *EverQuest*, by far the most popular pay-to-play game. And these online games have become the training wheels for virtual worlds.

One notable game that styled itself as a virtual world, however, has not succeeded: the *Sims Online*, the Net-based version of the bestselling simulated-community software from Electronic Arts. The *Sims Online* is fun, but its problem may be that it’s too gamelike. To earn rewards and even to survive, players must perform certain tasks—including mundane stuff like

### The New Virtual Worlds

#### There

- **Offers:** A neophyte-friendly virtual community with resort-style activities, from hoverboarding to hot tubs
- **Business model:** A combination of monthly subscription and introductory fees, limited

taking showers and cleaning up after dinner—when, it seems, all they really want to do is chat about *American Idol* and have cybersex.

advertising, and transaction fees for user-run auctions

### Linden Lab

The new breed of virtual worlds aims to deliver a social distillation of the Sims Online, without the dirty dishes. “I want to engage people at a different level than a game,” says Philip Rosedale, founder and CEO of Linden Lab, the creator of Second Life. The key insight of the new virtual worlds is to allow people simply to share experiences with fellow cyber travelers, without forcing them to perform any particular tasks. Hygiene, in the new worlds, is a personal choice—not a survival skill. Rather than pitting people against one another, Rosedale says, the new software gives them the tools to express their personalities. “What’s interesting is creating a space that can be meaningfully altered to reflect your ego,” Rosedale says.

- **Offers:** A more geek-oriented virtual playground called Second Life, with do-it-yourself scripting tools that allow you to build elaborate objects within the world
- **Business model:** A monthly subscription fee, plus a kind of property tax based on the size of your online abode

For Harvey, who generally agrees, that’s a matter of taking the best of chat and the best of gaming to forge something completely new. For example, he says, “video game skiing is all about getting to the bottom of the hill. But in real life, the experience of skiing is so much more. It’s about getting a beer afterward, talking to someone on the lift. It’s those situations when so many different aspects of your personality come through.”



### Virtual Worlds, Real Technology

Take flying, for instance. Being airborne is kind of cool—even if you’re only doing it on your computer. I discovered my powers of flight by accident. I was hanging out in Second Life, the virtual world from Linden Lab, pointing and clicking around until, suddenly, my character on screen was lifting into the sky. Houses, trees, and hills passed beneath me. When I landed, the first thing I talked about was my lame flying skills. The virtual world feeds upon itself, providing shared experiences that its inhabitants can chat about. That’s the essence of what’s being retailed here, and There. While text chat gives people a way to discuss what’s going on in the physical world, virtual worlds give you things to talk

about, too—assuming you have the patience for, and interest in, participating in this consensual cartoon.

In this sense, the technology behind the virtual worlds is something like the engineering behind a theme park. To succeed, it must work well enough to create a reasonable suspension of disbelief. The virtual world needs to be complex but seamless. You need to be able to fly over a hill without crashing to a halt while the next slice of landscape loads into the computer’s memory. In the past, virtual worlds were simply not visceral enough to elicit even a hiccup of belief. Floating around a room as a disembodied smiley face, as players did in Palace, was, at best, cute; the technology could not deliver anything even remotely as compelling as a *SuperFriends* rerun. Though technology is catching up, Harvey says, “It’s a very difficult technical problem to provide immediate responsiveness and a fast-action feel to people who are playing with others over the Internet.”

There and Second Life solve this problem in different ways. Second Life subscribers first download a small (only about 18 megabytes) piece of software called a “thin client.” The other 320 gigabytes of data needed to simulate the virtual world—such as richly rendered 3-D graphics and high-fidelity sounds—sit on a grid of servers at Linden Lab’s San Francisco facility. Rosedale, who ran the engineering department for RealNetworks, the Seattle-based Internet media

company, developed a 3-D streaming technology that delivers all the objects in the virtual world over the Internet in real time. When a subscriber logs off, the virtual world keeps on going and evolving. Log back on and things have changed in your absence.

But continuity is only one requirement for a convincing online environment. For added gravity, There employs a technology called a physics engine that enables objects and avatars to interact as in the real world. Cars collide. Paintball pellets lob through the air. Physics exists. The problem is that you have all these people in the real world, connecting to the Internet through different machines, at different speeds. How do you keep everything moving around convincingly?

The answer, for There, is essentially to stagger the simulation. Rather than conjuring up the world as a single moment in time, the servers keep track of all objects as a series of time points. When I walk next to Lexxa, for example, I see her as walking slightly ahead of me, while she sees me as walking slightly ahead of her. By rendering our experiences individually, the software convinces us that we're in sync, just as if we were taking a stroll in real life.

But more problems persist—the foremost being that these worlds are very big. If Second Life existed in real life, it would cover roughly eight square kilometers. Rather than handling this as one large chunk of data, Second World's software divides it into dozens of 6.5-hectare "tiles." Each tile is maintained by a single Pentium 4 computer, running Linux, at Linden Lab's offices. The computer handles everything from the weather patterns to the scripts that make doorbells ring. As I fly from one tile to the next, information about my surroundings is provided by another server—but for me, the transition is seamless. And as the number of users grows, the world itself expands to accommodate them. "We put new machines online as new users join the system," Rosedale says. "It scales."

Like those at Linden Lab, There's servers partition its world into chunks, or sections, that are streamed to the user's computer. But the partitioning is based on population density rather than geographical area. "If no one is in the Atlantic Ocean," Harvey says, "then the servers can make the entire Atlantic one section. But if the more popular areas have thousands of people in them, then they have to partition in smaller pieces."

Linden Lab and There also provide technology aimed at fostering the kind of community that sprouts naturally around chat rooms. There utilizes so-called avatar-centric communication. When I wander toward some thermal springs and encounter a group of people, my avatar is automatically positioned to face them and theirs to face me, our heads angled inquisitively, our eyes ready to lock. Once you're engaged, you can select from a palette of preprogrammed gestures. I can choose to yawn when bored or wag my tongue if I feel like flirting in a Neanderthal sort of way. Though the expressions are canned, they evoke more intuitive responses than the trite "emoticons" of text-based chat. You don't type a semicolon; you wink.

### **Show Me the Money**



I'm suffering from a bad case of hoverboard envy. Just a short time ago I materialized in There, and I'm already itching to upgrade my hoverboard. In these emerging virtual economies, you have to buy such upgrades and other stuff with virtual cash. There issues every member 10,000 "Therebucks" when he or she joins; you can earn more through in-game jobs and transactions. It doesn't take me long to blow several thousand Therebucks on clothes and shoes, like my new Nike sneakers (which Nike made available through an advertising deal). And then there are the big-ticket items: a hoverbike costs around 17,000 Therebucks, a buggy 10,000 to 20,000.

Whoever is operating Lexxa widens the avatar's eyes when she sees my new duds. Virtual apparel imparts real status. And since many of the people coming here want to meet others, and want to be liked, they're inclined to get more cool stuff that will encourage people to like them (just as in real life). In There, subscribers purchase or create in-game accessories, from hoverboards to self-designed clothes. "I am in There to marvel at the world and the wonderful creativity that talented people are expressing," notes a There veteran named Daemona. In Second Life, the more techie of the two offerings, members can use Linden Lab's scripting tools to build more complicated things—though it takes a certain level of will and design chops to construct, say, your own Tiki hut from scratch.

For virtual worlds to truly evolve into a mass-market communication medium, they need to make money. Whether that will happen remains in doubt. The business model of the moment is subscriptions: inhabiting Second Life costs \$10 per month, while residence in There will set you back \$5 per month, plus a one-time sign-up fee of \$20. Both companies are also making some money through advertising, such as the Nike deal, but ad revenues are tiny. "Advertising adds nothing to our world," says There founder Harvey. Other sources of revenue have begun to appear, though: There, for instance, accepted \$3.5 million to develop team-building simulations for the U.S. Army.

More substantial revenues could flow from the player-driven economy. If you run out of Therebucks and don't feel like providing some service in the virtual world, you can simply buy more using your real-world money. There has also built an in-game auction system, similar to eBay, which allows players to exchange goods. In return for this service, sellers must pay There a real transaction fee—in dollars, not Therebucks—that is a percentage of the price of the item being purchased. Linden Lab imposes taxes on its residents; the larger your lot, the more you pay.

Second Life even experienced its very own tax revolt; some of the virtual world's more ambitious builders went so far as to don colonial garb to protest the high rates. Linden Lab ended up modifying its economic model to address the diehards' concerns.

With a solid technological infrastructure and an emerging virtual economy, these brave new worlds want to go mainstream. But that may take some time. The companies won't say how many subscribers are online at the moment, but tours of There and Second Life reveal that they're modestly populated. In January, There was hit with layoffs that, though explained as a reorganization, have nonetheless raised doubts about its future. According to Schelley Olhava, an analyst with IDC, "The biggest challenge is educating the market. People have to see how much more compelling this is than chat."

And sometimes text-based chat is more than compelling enough. There will always be people who prefer the ease of a quick e-mail or instant message to manipulating an avatar. Often you don't want to hang out; you just want to tell someone to meet you for lunch at noon. "It may be that too few people are interested in this kind of creative expression to build a sustainable business," says Joe Laszlo, senior analyst for the technology research firm Jupiter Research. Also, as IDC's Olhava suggests, *There* and *Second Life* have the added challenge of building new brands from scratch. "They don't have the help of an established franchise," she says.

After saying farewell to Lexxa, I seek out an online friend who's been hanging out in *There*. We find each other by the buggy track and head off for a race. That's the thing about a virtual environment. While conventional chat is basically a bunch of small talk, the "talk" in this world is almost secondary to the experience itself. Who has time to gab when there's rubber to burn?

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David Kushner is a *Technology Review* contributing writer who covers digital entertainment. He is author of *Masters of Doom: How Two Guys Created an Empire and Transformed Pop Culture*.

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