

**Best
 IN BUSINESS**

CEO Tim Brown at the Palo Alto, Calif., headquarters of IDEO

The Deans of Design

By James Pethokoukis

When you're the chief executive officer of one of the planet's most influential design firms, you can't help but notice compelling design—such as the object in which IDEO's Tim Brown and a visitor are sitting this summer morning. Right inside the front door of the two-story lobby at IDEO's Palo Alto, Calif., headquarters is a 5-foot-high, open-roofed, Corian-shelled, cylindrical micro-conference room. It's sort of a 21st-century version of a yurt, the sturdy, all-weather tent of the Mon-

From the computer mouse to the newest Swiffer, IDEO is the firm behind the scenes

golian nomads. The yurt is not an IDEO design, though. Brown spotted the Steelcase-created prototype at a design show last year and just had to have it. Yet the technoyurt represents a core IDEO design principle: creating something tangible as a launching pad for further exploration and innovation. "It's

not talking about what may be; it's actually creating and building it," Brown says. "Something you can walk into. It's that ability to make new ideas tangible that makes design useful."

IDEO is all about experiential approaches. Its designers try to see and sense the world by getting inside the heads of their fellow human consumers. The firm—a dream come true

for the concerned parents of liberal arts majors everywhere—employs anthropologists, cognitive psychologists, and sociologists, among other right-brain thinkers, to create, improve, or reimagine all manner of products, services, work spaces, and business systems. “It’s a very human-centered process,” says Tom Kelley, the firm’s general manager and brother of founder David Kelley. “Others approach a problem from the point of view that says, ‘We have the smartest people in the world; therefore, we can think this through.’ We approach it from the point of view that the answer is out there, hidden in plain sight, so let’s go observe human behavior and see where the opportunities are.”

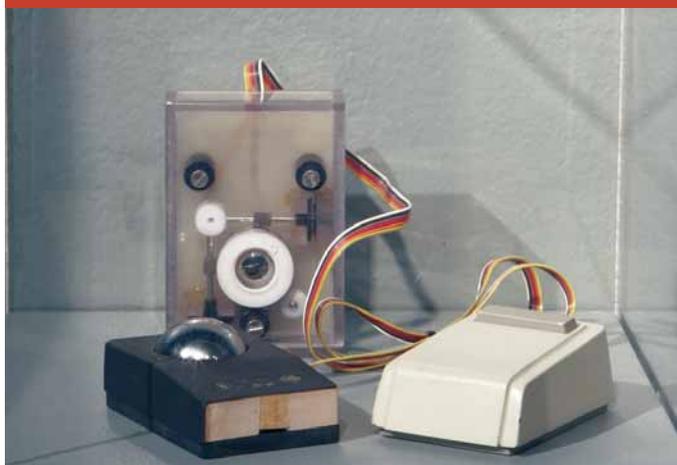
To illustrate the principle, Kelley gives the example of working on a project with the SSM DePaul Health Center in St. Louis to revamp its emergency room. One approach the firm could have taken would have been to quiz a bunch of former patients on their experiences. That sort of clinical, sterile approach is not the IDEO way. Instead, the firm went up close and personal. For instance, one IDEO anthropologist pretended to be a patient and managed to videotape his entire emergency room experience. One realization: While the admitting and treatment process might seem logical and orderly to staff, it appears chaotic and confusing to patients. So IDEO created a simple “map” that the hospital staff could give each incoming patient outlining the seven steps of the emergency room experience, starting with the triage nurse. It also recommended cards that each member of the staff could hand out so the patients could keep track of who’s who. “They understand that creativity had to be provoked and fed,” says Robert Porter, who has twice worked with IDEO, now as head of

strategic and business development for SSM Health Care—St. Louis, part of one of the largest Roman Catholic systems in the country. “They understand that you need a messy process to gain consumer insights.”

First laptop. IDEO employs some 450 people—including plenty of industrial designers and engineers—at its home base in Palo Alto and six other locations including Chicago, London, and Shanghai. It was created in 1991 by a merger of David Kelley Design, which created the first mouse for Apple Computer, and ID Two, which designed the first laptop computer for Grid Systems. In the 1990s, IDEO made a name for itself by designing dozens of technology products such as the Palm V and Treo organizers. On the low-tech side, it has designed the Crest no-squeeze, stand-up toothpaste



A key element of IDEO’s “design thinking” is getting out of the office and into the field.



“The answer is out there, hidden in plain sight,” says General Manager Tom Kelley (top). Above, prototypes of the Apple mouse.

PHOTO BY NICOLAS ZURCHER/IDEO

tube for Procter & Gamble as well as the award-winning Leap Chair for office furniture maker Steelcase. (IDEO is now a wholly owned independent business unit of Steelcase.)

Product design has been getting more and more attention in recent years as companies worry about their wares being turned into indistinguishable commodities. Design can add value. But IDEO is

also leveraging its traditional product design business, techniques of gathering consumer insights, and methods for generating ideas to transform itself into a broad-based consulting firm that can teach companies how to focus on the consumer, starting with design. “They still do excellent product designs, but IDEO also helps companies to work through the complex issues of innovation, particularly the front end where ideas are generated, gathered, and turned into product and service concepts,” explains Stefan Thomke, a professor at Harvard Business School who has studied and written extensively on IDEO.

Nestled inside the yurt, Brown expounds on what IDEO has termed “design thinking” and how it forms the basis for innovation and problem solving. A key element of design thinking is



electronic device for use in hospitals. One option was to put the 20-pound device on a rolling cart. But IDEO realized that nurses would hate hauling the thing around. So designers decided to shape it like a classic 1930s doctor's bag, sturdy handle and all. That design not only made the device easier to carry, but the visual iconography really connected with nurses. "The answer often lies with humans," says Tom Kelley, author of two books on creativity at IDEO. "When we tried to redesign a supply chain, for instance, we didn't watch trucks, we watched the workers."

A second key to design thinking is rapidly proto-

getting out of the office and into the field, as with the emergency room project. "Design thinkers are trained to go out into the world and connect with the world in a way that gives insight into new ideas," Brown says.

Specialized Bicycle Components, a California bike accessory company, came to IDEO looking for new approaches to the common water bottle. So the company sent a team of researchers into the foothills above Stanford University in Palo Alto to watch bikers using their water bottles in action. The observers quickly came to two conclusions: First, reattaching a water bottle to a bike is a tricky move when you're also trying keep your eyes on the road ahead. The IDEO solution was a water bottle with a tapered bottom and a rubber friction ring to make it easier to grip. Second, bikers used a two-step process with the water bottle: pull the nozzle out with their teeth and squeeze the bottle. So, using the human tricuspid heart valve as a bit of in-spirational biomimicry, the IDEO team designed a simple self-sealing valve that opens only when squeezed.

Years of customer observation also helped the company design a portable

typing initial ideas and exposing them to users. It helped IDEO when working on the new Crest toothpaste tube for P&G. A big challenge was improving the traditional screw-on cap, which always gets gunked up with toothpaste. IDEO first suggested a pop-on, pop-off cap. But when designers worked up rough prototypes and watched people use them, they quickly noticed that users kept trying to unscrew the cap even though they were told how it worked. The action was a well-ingrained habit that would probably be impossible to break. So designers came up with a hybrid: a twist-off cap that had a short thread but would still be easy to clean. "It doesn't matter how clever you are, your first idea about something is never right," Brown says. "So the great value of prototyping—and prototyping quickly and inexpensively—is that you learn about the idea and make it better."

The prototypes don't have to be elaborate, Brown is quick to note. Not at all. For instance, IDEO was working on a surgical tool design for Gyrus ENT. During a meeting with a roomful of surgeons from the company's advisory board, not much was getting done—just lots of hand

waving and gesturing. Seeing that this sort of abstract back and forth wasn't getting the group anywhere, an IDEO engineer stepped out of the room for five minutes and came back with a crude tool model slapped together out of a whiteboard marker, a black film canister, and a clothespinlike clip. "That prototype crystallized the conversation in the room and allowed the project to move forward," Kelley says. "That kind of prototype also lowers the bar so that everyone in the whole organization can do a prototype, which really contributes to a culture of innovation. No one will mock you for bringing something unpolished to the CEO."

Fragile. The third big element of design thinking is storytelling. "Ideas are fragile even when they're prototyping," Brown says. "And in large organizations in particular, new ideas can get killed very easily because people don't understand them or connect with them." Vocera came to IDEO with technology for a two-way wireless device that could be clipped to a shirt pocket or worn on a lanyard. It was ideal for hospitals, big-box stores, or corporate campuses. To dramatize how the *Star Trek*-esque device would work, IDEO produced a five-minute film that the firm later used to get venture-capital funds and that served as a basis for marketing the product.

Most people are probably not really aware that firms like IDEO exist. They may assume that companies do design in-house. Others may have discovered design firms through the reality television show *American Inventor*, which pitted inventors and their products against one another for a \$1 million prize. At one point in the show, the finalists started working with design firms to improve the look of their inventions, their functionality, or often both. But *American Inventor* gives a misleading view of companies like IDEO because "it assumes design is something that is added late in the process," Kelley says.

The show also implies that design is simply about products. But IDEO is

pushing design thinking far beyond that. The firm was hired by Kraft to help improve its relationship—and supply-chain management process—with Safeway supermarkets. IDEO brought teams from both companies to Palo Alto to brainstorm and develop prototypes of strategies and promotions. Afterward, IDEO pestered the participants with E-mails to remind them to follow up on the ideas generated at the get-together.

Crumbs on the carpet. What's it like to experience the IDEO approach as a client? Robert Godfroid has seen it firsthand. He led a team from P&G that worked with IDEO on the Carpet Flick, a version of the popular Swiffer for cleaning carpets without an electric vacuum. The collaboration combined existing P&G consumer research with IDEO'S

Corporate managers crawled on the floor to create the Carpet Flick.

research process, such as visiting people in their homes to see how they cleaned. Then came a couple of days of brainstorming, IDEO style. "So you had all these P&G managers down on the floor on their hands and knees working with tape dispensers and scrapers and things trying to pick crumbs off the floor," Godfroid recalls. "We weren't just pondering about this stuff on a whiteboard."

The Eureka moment came after an IDEO team member was messing with a squeegee and realized that crumbs and other small particles could

be collected by pressing them down and popping them back up like tiddlywinks. That approach was quickly incorporated into rough prototypes—"You can always pretty it up later," Godfroid says—and eventually into what became the final design. "I've now become an evangelist for this kind of development process."

Time to leave the yurt. Brown is headed to the airport to catch a flight to China, where he's giving a speech on design. Unfortunately, when you're the CEO of one of the planet's most influential design firms, you tend to see disjointed design everywhere. "Airport security—please, just give us an hour to work on that!" Brown exclaims with a smile. |



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