Design Thinking for Social Innovation
IDEO

BY TIM BROWN AND JOCELYN WYATT

DESIGNERS HAVE TRADITIONALLY FOCUSED on enhancing the look and functionality of products. Recently, they have begun using design tools to tackle more complex problems, such as finding ways to provide low-cost healthcare throughout the world. Businesses were first to embrace this new approach called design thinking. Now nonprofits are beginning to adopt it too.

In an area outside Hyderabad, India, between the suburbs and the countryside, a young woman—we'll call her Shanti—fetches water daily from the always-open local borehole that is about 300 feet from her home. Shanti and her husband rely on the free water for their drinking and washing, and though they've heard that it's not as safe as water from the Naandi Foundation-run community treatment plant, they still use it. Shanti is forgoing the safer water because of a series of flaws in the overall design of the system. Shanti can't carry the 5-gallon jerrican that the facility requires her to use. The treatment center also requires them to buy a monthly punch card for 5 gallons a day, far more than they need.

As Shanti's situation shows, social challenges require systemic solutions that are grounded in the client's or customer's needs. This is where many approaches founder, but it is where design thinking—a new approach to creating solutions—excels.

Design thinking incorporates constituent or consumer insights in depth and rapid prototyping, all aimed at getting beyond the assumptions that block effective solutions. Design thinking—inherently optimistic, constructive, and experiential—addresses the needs of the people who will consume a product or service and the infrastructure that enables it.

The Origin of design thinking

IDEO WAS FORMED IN 1991 as a merger between David Kelley Design, which created Apple Computer's first mouse in 1982, and ID Two, which designed the first laptop computer, also in 1982. Initially, IDEO focused on traditional design work for business, designing products like the Palm V personal digital assistant, Oral-B toothbrushes, and Steelcase chairs. These are the types of objects that are displayed in lifestyle magazines or on pedestals in modern art museums.

By 2001, IDEO was increasingly being asked to tackle problems that seemed far afield from traditional design. A healthcare foundation asked us to help restructure its organi-

zation, a century-old manufacturing company wanted to better understand its clients, and a university hoped to create alternative learning environments to traditional classrooms. This type of work took IDEO from designing consumer products to designing consumer experiences.

As an approach, design thinking taps into capacities we all have but that are overlooked by more conventional problem-solving practices. Not only does it focus on creating products and services that are human centered, but the process itself is also deeply human. Design thinking relies on our ability to be intuitive, to recognize patterns, to construct ideas that have emotional meaning as well as being functional, and to express ourselves in media other than words or symbols. Nobody wants to run an organization on feeling, intuition, and inspiration, but an over-reliance on the rational and the analytical can be just as risky. Design thinking, the integrated approach at the core of the design process, provides a third way.

The design thinking process is best thought of as a system of overlapping spaces rather than a sequence of orderly steps. There are three spaces to keep in mind: *inspiration*, *ideation*, and *implementation*. Think of *inspiration* as the problem or opportunity that motivates the search for solutions; ideation as the process of generating, developing, and testing ideas; and *implementation* as the path that leads from the project stage into people's lives.

The reason to call these spaces, rather than steps, is that they are not always undertaken sequentially. Projects may loop back through inspiration, ideation, and implementation more than once as the team refines its ideas and explores new directions. Not surprisingly, design thinking can feel chaotic to those doing it for the first time. But over the life of a project, participants come to see that the process makes sense and achieves results, even though its form differs from the linear, milestone-based processes that organizations typically undertake.

Inspiration

THE CLASSIC STARTING POINT for the inspiration phase is the brief. The brief is a set of mental constraints that gives the project team a framework from which to begin, benchmarks by which they can measure progress, and a set of objectives to be realized—such as price point, available technology, and market segment. A well-constructed brief allows for serendipity, unpredictability, and the capricious whims of fate—the creative realm from which breakthrough ideas emerge.

Tata Nano, the world's cheapest car, designed and produced in India.

Once the brief has been constructed, it is time for the design team to discover what people's needs are. Traditional ways of doing this, such as focus groups and surveys, rarely yield important insights.

A better starting point is for designers to go out into the world and observe the actual experiences of smallholder farmers, schoolchildren, and community health workers as they improvise their way through their daily lives. Working with local partners who serve as interpreters and cultural guides is also important, as well as having partners make introductions to communities, helping build credibility quickly and ensuring understanding. Through "homestays" and shadowing locals at their jobs and in their homes, design thinkers become embedded in the lives of the people they are designing for.

Earlier this year, Kara Pecknold, a student at Emily Carr University of Art and Design in Vancouver, British Columbia, took an internship with a women's cooperative in Rwanda. Her task was to develop a Web site to connect rural Rwandan weavers with the world. Pecknold soon discovered that the weavers had little or no access to computers and the Internet. Rather than ask them to maintain a Web site, she reframed the brief, broadening it to ask what services could be provided to the community to help them improve their livelihoods. Pecknold used various design thinking techniques, drawing partly from her training and partly from Ideo's Human Centered Design toolkit, to understand the women's aspirations.

Because Pecknold didn't speak the women's language, she asked them to document their lives and aspirations with a camera and draw pictures that expressed what success looked like in their community. Through these activities, the women were able to see for themselves what was important and valuable, rather than having an outsider make those assumptions for them. During the project, Pecknold also provided each participant with the equivalent of a day's wages (500 francs, or roughly $1) to see what each person did with the money. Doing this gave her further insight into the people's lives and aspirations. Meanwhile, the women found that a mere 500 francs a day could be a significant, life-changing sum. This visualization process helped both Pecknold and the women prioritize their planning for the community.[1]

Ideation

THE SECOND SPACE of the design thinking process is ideation. After spending time in the field observing and doing design research, a team goes through a process of synthesis in which they distill what they saw and heard into insights that can lead to solutions or opportunities for change. This approach helps multiply options to create choices and different insights about human behavior. These might be alternative visions of new product offerings, or choices among vari-

ous ways of creating interactive experiences. By testing competing ideas against one another, the likelihood that the outcome will be bolder and more compelling increases.

To achieve divergent thinking, it is important to have a diverse group of people involved in the process. Multidisciplinary people—architects who have studied psychology, artists with MBAs, or engineers with marketing experience—often demonstrate this quality. They're people with the capacity and the disposition for collaboration across disciplines.

To operate within an interdisciplinary environment, an individual needs to have strengths in two dimensions—the "T-shaped" person. On the vertical axis, every member of the team needs to possess a depth of skill that allows him or her to make tangible contributions to the outcome. The top of the "T" is where the design thinker is made. It's about empathy for people and for disciplines beyond one's own. It tends to be expressed as openness, curiosity, optimism, a tendency toward learning through doing, and experimentation. (These are the same traits that we seek in our new hires at IDEO).

Interdisciplinary teams typically move into a structured brainstorming process. Taking one provocative question at a time, the group may generate hundreds of ideas ranging from the absurd to the obvious. Each idea can be written on a Post-it note and shared with the team. Visual representations of concepts are encouraged, as this generally helps others understand complex ideas.

One rule during the brainstorming process is to defer judgment. It is important to discourage anyone taking on the often obstructive, non-generative role of devil's advocate, as Tom Kelley explains in his book *The Ten Faces of Innovation*.[2] Instead, participants are encouraged to come up with as many ideas as possible. This lets the group move into a process of grouping and sorting ideas. Good ideas naturally rise to the top, whereas the bad ones drop off early on. InnoCentive provides a good example of how design thinking can result in hundreds of ideas. InnoCentive has created a Web site that allows people to post solutions to challenges that are defined by InnoCentive members, a mix of nonprofits and companies. More than 175,000 people—including scientists, engineers, and designers from around the world—have posted solutions.

The Rockefeller Foundation has supported 10 social innovation challenges through InnoCentive and reports an 80 percent success rate in delivering effective solutions to the nonprofits posting challenges.[3] The open innovation approach is effective in producing lots of new ideas. The responsibility for filtering through the ideas, field-testing them, iterating, and taking them to market ultimately falls to the implementer.

Implementation

THE THIRD SPACE of the design thinking process is implementation, when the best ideas generated during ideation are turned into a concrete, fully conceived action plan. At the core of the implementation process is prototyping, turning ideas into actual products and services that are then tested, iterated, and refined.

Through prototyping, the design thinking process seeks to uncover unforeseen implementation challenges and unintended consequences in order to have more reliable long-term success. Prototyping is particularly important for products and services destined for the developing world, where the lack of infrastructure, retail chains, communication networks, literacy, and other essential pieces of the system often make it difficult to design new products and services.

After the prototyping process is finished and the ultimate product or service has been created, the design team helps create a communication strategy. Storytelling, particularly through multimedia, helps communicate the solution to a diverse set of stakeholders inside and outside of the organization, particularly across language and cultural barriers.

VisionSpring, a low-cost eye care provider in India, provides a good example of how prototyping can be a critical step in implementation. VisionSpring, which had been selling reading glasses to adults, wanted to begin providing comprehensive eye care to children. VisionSpring's design effort included everything other than the design of the glasses, from marketing "eye camps" through self-help groups to training teachers about the importance of eye care and transporting kids to the local eye care center.

Working with VisionSpring, IDEO designers prototyped the eyescreening process with a group of 15 children between the ages of 8 and 12. The designers first tried to screen a young girl's vision through traditional tests. Immediately, though, she burst into tears—the pressure of the experience was too great and the risk of failure too high. In hopes of diffusing this stressful situation, the designers asked the children's teacher to screen the next student. Again, the child started to cry. The designers then asked the girl to screen her teacher. She took the task very seriously, while her classmates looked on enviously. Finally, the designers had the children screen each other and talk about the process. They loved playing doctor and both respected and complied with the process.

By prototyping and creating an implementation plan to pilot and scale the project, IDEO was able to design a system for the eye screenings that worked for VisionSpring's practitioners, teachers, and children. As of September 2009, VisionSpring had conducted in India 10 eye camps for children, screened 3,000 children, transported 202 children to the local eye hospital, and provided glasses for the 69 children who needed them.

Systemic problems need systemic solutions

MANY SOCIAL ENTERPRISES already intuitively use some aspects of design thinking, but most stop short of embracing the approach as a way to move beyond today's conventional problem solving. Certainly, there are impediments to adopting

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Papers. A thriving global grassroots mapping community provides ever-increasing detail and coverage, monitors accuracy collectively, lobbies governments for data, and finds new ways to use geographic data. Recently, OSM volunteers mapped Haiti remotely to support emergency efforts.[3]

After the initial success of Map Kibera, we began to turn our attention to issues of sustainability and impact. We recently established a company called GroundTruth Initiative in order to expand work on mapping and digital citizen media to other regions, using Map Kibera as a pilot. The second phase expands on an evolving concept for GroundTruth: community information development—gathering, reporting, and analyzing local information using digital tools, and using that information for advocacy. The Map Kibera group is now working with local organizations to create a seamless link from the community to government agencies and others in powerful positions to make these collective voices heard. With support from Unicef and partners SODNET and KCODA, the new phase involves three concurrent threads: more detailed mapping in thematic areas such as health and education; media development including an Ushahidi website called Voice of Kibera and video news reporting; and SMS monitoring of services and incidents. A series of community meetings using a paper printout of the map will kick off community discussions on topics such as health, security, education and water, allowing for local feedback.

The final outcome should be nothing less than a new model for participation in civic processes, and a new representation of Kibera based on the knowledge held by its residents.

Erica Hagen founded Map Kibera with partner Mikel Maron in October of 2009, and established GroundTruth Initiative, LLC in March 2010. She received a Master's of International Affairs from Columbia University in New York, where she focused on journalism and international development. She has worked in four countries on project evaluation and communications, and in the United States on refugee and immigrant issues. She holds a B.A. from Reed College in Religion.

Kaushal Jhalla contributed to this article.

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Notes

1 On the low end, see Stefano Marras, "Mapping the Unmapped," http://www.afronline.org/wp-content/uploads/2009/06/kibera_mapping_the_unmapped.pdf
On the high end, see Amnesty International and many other NGOs: http://www.amnestyusa.org/all-countries/kenya/page.do?id=1011181

2 *The Unseen Majority*, p.6

3 Haiti Wiki: http://wiki.openstreetmap.org/wiki/WikiProject_Haiti

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design thinking in an organization. Perhaps the approach isn't embraced by the entire organization. Or maybe the organization resists taking a human-centered approach and fails to balance the perspectives of users, technology, and organizations.

One of the biggest impediments to adopting design thinking is simply fear of failure. The notion that there is nothing wrong with experimentation or failure, as long as they happen early and act as a source of learning, can be difficult to accept. But a vibrant design thinking culture will encourage prototyping—quick, cheap, and dirty—as part of the creative process and not just as a way of validating finished ideas.

Design thinking can lead to hundreds of ideas and, ultimately, real-world solutions that create better outcomes for organizations and the people they serve.

Tim Brown is the CEO and president of IDEO, a global innovation and design firm. He is author of *Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation* (HarperBusiness, 2009), a newly published book about how design thinking transforms organizations and inspires innovation.

Jocelyn Wyatt leads IDEO's Social Innovation group, which works with enterprises, foundations, nongovernmental organizations, and multinationals to build capabilities in design thinking and design innovative offerings that meet the needs of local customers.

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Notes

1 Jocelyn Wyatt, E-mail correspondence with Kara Pecknold, September 23, 2009.

2 Tom Kelley and Jonathan Littman, *The Ten Faces of Innovation: IDEO's Strategies for Defeating the Devil's Advocate and Driving Creativity Throughout Your Organization*, New York: Random House, 2005.

3 "Accelerating Innovation for Development: The Rockefeller Foundation and Inno-Centive Renew Partnership Linking Nonprofit Organizations to World-Class Scientific Thinkers," Rockefeller Foundation, June 23, 2009.

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