

# Designing for Social Change

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## 1.0 INTRODUCTION

Designers pride themselves as solvers of complex problems. But year after year, thousands of young designers graduate and go off to work at prestigious agencies where they solve usability problems for entertainment websites or reconfigure packaging designs to shave cents off the cost. What if all those designers were instead focusing their time and efforts on societal issues such as poverty, equality, and sustainability? The turmoil in our world today begs us to take a good look at the way we are living, the way we are training our designers, and the types of problems we are solving.

Typically, social problems are seen as the responsibility of governments and non-profit organizations. Why not design as well? The design discipline is well positioned to apply creative problem-solving toward these “wicked” problems — a “class of social system problems which are ill-formulated, where the information is confusing, where there are many clients and decision makers with conflicting values, and where the ramifications in the whole system are thoroughly confusing” (Buchanan, 1992).

In the last decade, “design thinking” has been embraced by businesses to help them innovate (Martin, 2010). These approaches, which have found legitimacy in the for-profit world, have also shown success when applied to humanitarian and cultural issues. When IDEO, a global design consultancy firm, implemented the Keep the Savings program for Bank of America, not only did it successfully help millions of Americans change their saving habits, it also generated new business and revenue for the bank (Ante, 2006). We are entering an era where designers aren’t just stylists, an era where designers can also serve as strategists in creating solutions that shape activities, behaviors, and relationships.

This paper intends to increase understanding of how interaction design can be used to address broader societal issues. First, we look at how the interaction design discipline, our tools, and our methodologies are uniquely poised to address the “wicked” social problems of today. Next, we present a case study of how students from the Austin Center for Design are using the design process to tackle homelessness in Austin, Texas. To conclude, we examine a new design education pedagogy that approaches social problems by transforming design projects into social enterprises and students into founders.

## **2.0 ENGAGE INTERACTION DESIGNERS IN THE WORLD'S HARDEST PROBLEMS**

Design practices bring value to nearly every stage in the process of tackling a social problem. Design research and usability testing embed empathy. Synthesis invokes insights. Iteration encourages innovation, and prototyping prevents paralysis. The design process can be a cyclical one that builds on itself to make progress toward a specific problem. As a designer works within a social impact space—continually refining, iterating, and testing her ideas—she gains a deeper understanding of the complexity of the problems at hand. As she builds stronger partnerships within her community, she will have a greater ability to create the impact she desires (Pilloton, 2010).

The following section describes three fundamental ways interaction designers bring value to the social innovation table.

### **2.1 Design Research: Finding the right problem to tackle**

Many development efforts and “feel good” solutions often stop short of creating true social change for a number of reasons: addressing symptoms rather than root causes, viewing people as victims needing help rather than able beings who can help themselves, or misunderstanding the complexity of the problems at hand. Greg Mortenson made it his life’s mission to build schools for children in rural Afghanistan and received much public support after his book, *Three Cups of Tea*, was published. But without equal efforts to properly train and pay teachers to staff the classrooms, these buildings end up empty within years (Shaikh, 2011). Design research weaves empathy into the entire innovation process and can provide processes for uncovering root causes.

While design is a process of problem solving, design research is fundamentally a process of problem finding. Effective design research techniques include contextual inquiry and participatory interviews. Contextual inquiry immerses designers in a new context to observe and to unearth the why’s behind existing behaviors (Beyer, Holtzblatt, 1998). Participatory interviews that include “homework” assignments and co-creation exercises allow participants to express their attitudes and ideas. Because designers must enter this with an apprentice mentality that raises interviewees to the expert role, designers must postpone judgment, which prevents them from jumping to conclusions and settling on solutions that address symptoms rather than root causes.

Solutions that merely “give” create a mentality of victimhood, learned helplessness, and dependency in the people who are supposed to be benefiting. Dambisa Moyo, international economist and author, argues that foreign aid is actually hurting Africa. Though there is a need for aid to address natural catastrophes, “...these forms of aid are at best band-aid solutions, and can never be the catalyst for long-term economic development.” (Moyo, 2009). When design researchers and social entrepreneurs engage with individuals in the community on a deeper level and treat all stakeholders as the true experts that they are, they can break this trend of thinking of others as “needing to be helped.” Collaboration ignites the creative capital—and capabilities (Alkire, Deneulin, 2009)—within communities that can lead to more sustainable change that grows and exists beyond any designer’s short-lived interventions. Design research gives us a way to formalize the philosophy of listening to our users and co-creating something together for social change.

## **2.2 Design Synthesis: Re-framing to imagine new possibilities**

Disruptive innovations are often greeted with cynicism. “Good idea; never gonna happen,” some would comment. These disruptions often occur in areas where dedicated professionals have spent years working on improving problems that just won’t go away. For true innovation, we need to ask questions that intentionally reframe the current circumstances and create lens shifts of how we view existing experiences. This process was originally termed abductive logic by philosopher Charles Sanders Peirce (Martin, 2010). He referred to it as an “inference to the best explanation” and “a logical leap of the mind.” Many of the methods interaction designers use on a day-to-day basis are specifically geared toward coming up with these “leaps” in order to make completely unprecedented connections (Kolko, 2011a). Design synthesis provides processes for understanding the complexity of problems and for creating ideal environments in which these “leaps” can happen repeatedly.

The synthesis of design research takes visual forms such as affinity diagrams, workflow charts, and concept models. Working through these visualizations can surface themes and patterns that may otherwise go unnoticed. Cultural models map the relationships between people and organizations can bring previously unquestioned assumptions to the forefront as either opportunity areas or challenges (Beyer, Holtzblatt, 1998). For instance, one might recommend more tutoring for children living in a homeless shelter but then find the results negligible toward boosting grades. If we dig deeper into a concept map of the children’s lives, we see other factors at play—the absence of quiet time for homework or trouble sleeping due to worry.

As part of the synthesis process, designers will purposely ask “what if” questions to force relationships between seemingly unrelated actors. For example, when Casey Fenton founded couchsurfing.org, she asked what if we could bring an ancient notion of hospitality and tuck it into a thoroughly modern paradigm of online community? She challenged the notion that people would be unwilling to lend their couches to complete strangers (Green, 2007). Whenever experiences are being reframed, it alters the existing dynamics between actors and changes the landscape. These moments offer opportunities to reexamine old beliefs about what’s possible and to recombine existing assets to create new solutions that are more effective, efficient, and sustainable.

### **2.3 Rapid Prototyping: Making dreams tangible**

Another trait that makes designers unique is their ability to turn vision into reality. Instead of instigating meetings, conferences, or whitepapers, designers focus on sketching or prototyping. Oftentimes, stakeholders are not on the same page or they don’t know how to turn their observations and gut feelings into actionable change. When a concrete artifact is produced, we can then all judge, critique, improve, and progress forward. Even sketching thus becomes a means of prototyping the first glimmers of an idea. It becomes the designer’s jobs to help externalize, articulate, visualize, and organize the thoughts and feelings of various individuals. Endless meetings can now turn into productive working sessions with clear agendas driven by tangible artifacts.

Furthermore, when working with “wicked” problems —large-scale, ill-defined, persistent, complex social problems—it is easy to fall into the trap of expecting slow progress. The design philosophy of rapid prototyping breaks through this trap. When Paul MacCready decided to take on the challenge of building an airplane, his insight was that everyone spent upwards of a year building before testing, only to watch all that work fail within minutes (Raskin, 2011). He thus came up with a new question: how do you build a plane that can be rebuilt in hours instead of months? Re-framing the problem in a way that allows for rapid prototyping not only helps the team learn faster, it also speeds up each iteration cycle and gets everyone closer to the right solution faster.

By creating a working product as quickly as possible, decisions for future iterations can be driven by real-world participation, instead of executives in a meeting room discussing what they assume people will want. Take for instance the rapid evolution of mobile solutions in developing countries. One of the benefits of the open-source platform FrontlineSMS has been its rapid deployment and experimentation. As non-profits and NGOs around the world test out new uses, social enterprises emerge from the lessons learned and challenges faced in implementation. FrontlineSMS:Credit has

spawned ventures like Kopo Kopo, a software-as-a-service that provides mobile money as a payment channel for other companies (Sinsky, 2011).

### **3.0 AUSTIN CENTER FOR DESIGN AND HOMELESSNESS IN AUSTIN**

Austin Center for Design (AC4D), a new education institution in Austin, Texas, exists to transform design education and graduate a new breed of interaction designers who focus on humanitarian and cultural problems. It teaches the design process described in this paper. The following section gives an overview of the research findings from the first class's work on the issue of homelessness in Austin, Texas.

We began with the explicit understanding that we would come nowhere near “solving” such a complex issue as homelessness. Students were split into five groups, each with different foci, intended to dive deep into our topics through design research. Through the partnership of a local shelter and by reaching out to the community, we were able to conduct observations, contextual inquiries, traditional interviews, and participatory interviews with stakeholders in a variety of contexts. As a group, we spent time sleeping on the street; volunteering at a shelter computer lab and at soup kitchens; attending art shows featuring artists from the streets; and constantly conversing with: people who are currently homeless, shelter staff, case managers, outreach workers, and development directors.

As we shared stories and started to synthesize our findings, a few consistent themes emerged. Foremost, the perception of people experiencing homelessness had to change before any true progress could be made. We started to empathize with the individuals whose lives were affected by homelessness and to understand the stigma behind the issue. The people we were meeting were artists, pet-lovers, chefs, mom's, sons and daughters just like us. The systems they had to navigate were treating them not as individuals but as numbers, and society labeled them according to their status of “homeless” rather than seeing them for their strengths. We also started to understand the complexity of the issues that fed into homelessness (poverty, unemployment, lack of affordable housing, addiction), and we started to realize that all of us were closer to homelessness than we had previously imagined.

After two months of research, we presented our findings back to the shelter alongside criteria for evaluating future efforts. This entailed crafting a compelling story that conveyed our insights and pointed toward action items without condescending to or offending the staff who had spent years

devoted to alleviating homelessness. After our presentation, one of the shelter staff announced that we had changed her perception even though she has worked there for over five years. We successfully showed that while the staff's intentions were client-centered, the systems and programs they had put into place were not treating clients as individuals. Furthermore, they were focusing on remedying client's weaknesses instead of leveraging their strengths and potential contributions. We were also invited to present again at their all-staff meeting and to their Board of Directors.

### **3.1 The new pedagogy: projects turned companies, students turned founders**

If this were a "design project", the presentation would have marked the end of the engagement. However, AC4D takes a new approach to design education: by the end of the school year, projects would evolve into companies and students would evolve into designer-founders. While we showed that design research was valuable in changing perceptions within traditional non-profits, and while we were confident the shelter would alter their programs based on our findings, we also wanted to create new solutions that were design-driven, people-centered, technology-powered, and financially sustainable. In order for our ideas to exist outside of current non-profit fundraising cycles, an enterprise model would serve as the vehicle for our ideas to become their own financially-sustainable entities. Because a two-month project can't create lasting impact, extended engagement in the problem space becomes essential for true social change (Pilloton, 2010).

During the synthesis of our research, we naturally started brainstorming possible solutions to the opportunity areas we had uncovered. We worked through formal design processes that forced us to reframe assumptions and "think outside the box." We found that the design processes others have used to create software, restaurant experiences, or products were the exact same processes we would use to create our social innovations.

Following the philosophy of rapid prototyping, we focused our energies on making tangible, functional prototypes as quickly as possible. These would range from paper prototypes to "Wizard-of-Oz" systems to fully-coded modules depending on the project. We wanted to test, evaluate, and improve upon our iterations before we got too attached to a single idea or concept. Creating working prototypes also allowed us to test business models and market adaptation of our new ventures.

The following section highlights the four venture ideas that emerged from our 24-week design project.

## **HourSchool**

When Alex Pappas and Ruby Ku stopped asking people about homelessness and began asking them about the best part of their day, over and over again they heard stories about people helping others and people sharing knowledge. They found that people experiencing homelessness possess a tremendous amount of knowledge and skills — from carpentry and roofing to oil painting and computer skills. Countless organizations are working to provide the homeless with essential goods and services such as shelter, food, and medical assistance. And although these are fundamental to physical survival, Ruby and Alex believe that they are not enough to lift someone out homelessness. Other needs, such as self-esteem and belonging to a community, are innate human needs that have to be fulfilled in order for people to go beyond survival and to move onto having a desire to live fully. That desire is often what separates the chronically homeless from the temporarily homeless. Instead of constantly asking about problems and deficiencies, Ruby and Alex believe we need to focus on the things people can offer, in order for them to feel like they have the power to change their own situations.

HourSchool was born as a platform to help facilitate informal peer-led classes, with an emphasis on empowering people to become teachers. This provides a way for people to earn income from teaching classes instead of relying on hand-outs. Through HourSchool, people also earn the self-esteem that comes along with teaching. HourSchool provides the tools, technology, and support to facilitate a local learning community and in return takes a small percentage of the cost of the classes to sustain their business.

## **One Up**

Women and children are the largest growing population experiencing homelessness, and there are a number of programs working to mitigate this growing problem. Many of the programs that have the most impact are focused on positive feedback, highlighting the youth's achievements. But in order for the youth to realize many of the benefits of these programs, they are required to attend regular in-person meetings with mentors or case managers. Due to low self-esteem, a fear of expectations, and busy schedules (juggling school and multiple jobs), many youth are often not ready for these structured programs. The result is that many youth simply visit the drop-in centers for basic necessities without engaging in the other programs the organizations offer.

During Kristine Mudd's research, she was surprised to learn that — like most kids — these street youth have regular access to computers and the Internet. She began to explore possibilities that would build on this insight in order to mitigate the friction point of physical attendance at a center, starting with these questions:

- \_ How can design facilitate the empowerment of young women who are not ready to engage in long-term programs?
- \_ How can design be used to help the youth recognize their own achievements and build self-esteem?
- \_ How can design extend the benefits of these great programs while minimizing the barriers for engagement?

One Up is an online tool that provides easy-to-follow action plans for youth to learn life skills (e.g. opening a bank account or acquiring a state ID card) while connecting them with both peers and expert mentors for support. By empowering the youth to choose their own levels of engagement and to dictate their own attendance terms, the youth will be able to achieve the goals of their action plans and simultaneously build their self confidence.

## **Patient Nudge**

While interviewing case managers, Ryan Hubbard and Christina Tran found that they were all strapped for time and resources. Case managers who had caseloads of 20 to 30 families were spending most of their days playing phone tag with their clients and putting out time-sensitive "fires" that arose in people's lives. During their research, Ryan and Christina also talked to clients—families and young moms staying in temporary shelters until they could get back on their feet. They observed that the clients who had the most success were the ones who had the strongest support systems in place, and that most families reached out to their contacts with their cell phones.

Ryan and Christina saw an opportunity to strengthen people's support networks. They knew case managers wanted to check in with all of their clients every day but just didn't have the time to call each and every one. They realized small check-in's could alert case managers to warning signs and that they'd be able to intervene to prevent those small things from snowballing into larger crises.

Patient Nudge is an online platform that allows care providers to automatically send text messages to their clients on a more frequent basis. Care providers can use Patient Nudge to schedule batches of outgoing messages, view incoming replies, and follow-up when necessary. Patient Nudge is also exploring business models and use cases for improving adherence in the healthcare field.

## **Pocket Hotline**

The front desk staff at a local shelter is constantly overwhelmed by calls from people asking the same types of questions over and over again. They're fielding these calls while trying simultaneously to

serve the people in the lobby. At the same time, the shelter doesn't have enough jobs for its volunteers—many of whom don't feel comfortable offering their physical presence at the shelter.

Chap Ambrose and Scott Magee decided to build a crowd-sourced information hotline that directly connects people with questions to volunteers with answers. The hotline reduces staff workload, allows questions to be answered efficiently, and engages the community in one-on-one interactions. The team was able to whip up a functional prototype using Ruby on Rails, and have been testing it with OK4RJ (Oklahoma for Reproductive Justice) and with the Rails community (Rails Hotline). The former were looking for a way to distribute incoming calls among volunteers, and the latter are always looking for ways to talk to real-live people rather than weeding through forums to find the same answers.

Pocket Hotline is expanding its reach to become a crowd-sourced customer service option for for-profit organizations that want to leverage the enthusiasm of power users and fans. Pocket Hotline hopes to subsidize the service for non-profits in the future.

## **4.0 CHALLENGES AND LESSONS LEARNED**

“Designer as founder” requires a different skillset than “designer as artifact maker.” Jon Kolko, Director of AC4D, notes that “it requires soft skills like facilitation; it requires an understanding of market dynamics and funding structures; it requires the ability to view culture as a complex system; and it requires deep, sustained passion.” (Kolko, 2011c) The following section describes some of the biggest challenges we have encountered as we continue to transition these projects into companies.

### **4.1 Finding appropriate markets**

Our ideas were originally inspired from our research at the homeless shelter. We didn't want to become reliant on grant cycles and the fundraising model of the non-profit world, so our new challenge became finding other markets that would find value in our solutions and which were willing to pay for them. Evidently, the typical goal of a business is to maximize profit. When trying to build a social enterprise whose goal is to maximize social impact, we face the challenge of needing to balance mission and profit. For example, trying to market and sell Patient Nudge to case managers would not be fiscally sustainable, since non-profits rely on grants and donations to stay alive, and the financial decision-makers were different from the frontline staff who would benefit most from using the online service. Ryan and Christina brainstormed and widened their scope to target the medical industry, where adherence is a widespread problem deterring the effectiveness of medical treatment. Patient

Nudge is currently exploring various markets to see which is the right fit: direct care providers, insurance companies, or pharmaceutical companies.

It's important to have paying customers to keep the companies alive, so that the social impact work has a chance to address its mission (Yunus, 2010). At the same time, as we grow and scale our companies, we have to be cautious about mission drift, when our work no longer addresses the needs of the original target market (Virtue Ventures LLC, 2011).

## **4.2 Making minimal viable efforts public**

Designers love spending time in the studio dreaming up ideas. Often they feel their ideas are too half-baked to reveal to the world. One lesson we learned was to “finish baking by making” (Ku, 2010). Your first decisions will be wrong but that's less wrong than not making a decision at all. It's easy to get caught up looking for the ideal solution, but then the problem starts to feel too big to continue. We learned it is always best to push forward with the minimal necessary amount of work and to make public a “minimum viable product”.

For example, OneUp launched a proof-of-concept with youth from a local drop-in center that used a mixture of existing technology including email, Google Docs, and Google Chat. The young women liked the idea that they could work on their action plans from anywhere and still receive rewards. They started engaging with the tool on their own time, reaching out for support when necessary, and continued to complete the various action plans. During the pilot, one girl who never asked questions at the drop-in center reached out via chat on OneUP: “I need help. LOL.” Kristine could have waited until she had designed, wireframed, and coded a complete system to pilot OneUp, but through prototyping and engaging with the user community early on, she was able to learn what was working and to make important decisions without having to build anything from scratch.

## **4.3 Learning whatever it takes to run a company**

The types of expertise that are usually provided at a large firm by other staff members—finance, operations, marketing, technical development—are no longer available when you are on your own and starting your own company. The skill sets and support networks that are required extend beyond the traditional core competencies of many designers, who are used to handing off their projects once their part of the process is done. Creating social impact through ventures requires a sustained focus in an area of passion and sticking with your ideas through rounds of success, failure, and evolution.

Learning to be this type of leader is less about checking off a laundry list of skills to acquire, and more about embracing the entrepreneurial attitude of learning whatever is required of you on any

given day. Social entrepreneurs do not let their own limited resources keep them from pursuing their visions. They are skilled with doing more with less and attracting resources from others (Dees, 2001).

For example, HourSchool started with two people who had an insight built upon research and personal experience. In a matter of weeks, the team had to pick up tactical skills—such as visual design, programming, marketing, and program planning—in order to make progress as their idea went public. Ideas are powerful but will remain only good ideas until they're also proficiently executed. Well-executed companies start to create powerful impact.

## **5.0 CONCLUSION**

Our world faces pressing social problems. These problems are indeed “wicked”. Their solutions are not easy. And the road toward creating impact is not without its bumps. Interaction designers have a unique set of tools and skills that make them well-suited for this kind of work, and it's growing increasingly clear that our industry needs to broaden its scope and responsibility to include work in the social innovation sector. The work of the students at the Austin Center for Design has shown that it is possible—for interaction design to tackle societal issues, for designers to become social entrepreneurs, and for designers to find delight and challenge in working toward social impact.

The first class of Austin Center for Design graduated in April 2011. They continue to shape their companies as the vehicles for their ideas, their theories of change, and their passions for sustainable impact. They are part of a growing movement of designers who are finding their own ways to create innovation in the social space.

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