

## SPECIAL TOPIC

in these natural systems, which have evolved slowly over years and are ill prepared to respond quickly to change. Such imbalances can adversely impact human lives. For example, a surge in white-tailed deer that carry ticks responsible for spreading Lyme and other diseases is predicted to increase the incidence of these diseases among humans living in the eastern U.S. this year. Deer populations are out of control due to the removal of predators that would normally keep their populations in check.

Millions of citizens from across the world are working with scientists on citizen-science projects to track changes like these, and other changes in the distribution of organisms, migration patterns, poaching, wildlife trafficking, and more. These citizen-science activities offer interesting challenges for HCI specialists to create useful, well-designed technologies for important projects. I have been working to develop and collect understanding in this area: For an overview and suggestions of ways to become involved in HCI and citizen science see [14], and for promoting citizen science via effective smartphone design see [15]. HCI specialists can contribute to environmental fairness and justice across the world in many ways, but we must be expedient and creative to avoid existential crises [2].

✶ Jennifer Preece, University of Maryland

## There's No App for That (and Not a Robot Either)

I got involved as an organizer of this SIG because of something that bothered me: finding a technological fix for a political problem. This is an issue that I find troubling within our community in general, but I was especially irritated by it during the lead-up to the CHI 2017 conference in Denver and the discussions surrounding the travel ban.

We are problem solvers. Human-computer interaction as a discipline is not just the study of a topic; it is also the practice of finding solutions to problems we find. We love solutions. Many CHI papers briefly outline a problem before presenting its core contribution: the solution. We love solutions so much



that sometimes CHI papers provide solutions to unknown problems. (I am most definitely guilty of that.) Through my own prototyping experience, I've developed countless solutions. And I get excited when I meet someone who has a problem because—who knows—maybe one of their problems is something I already have a solution for.

I believe something like this happened this year during the lead-up to CHI. For some years now there have been telerobots at CHI. Having them made sense. After all, where better to try out such a relatively new technology than at a conference where people research how best to use new technologies? While I am sure there were people who benefited greatly from these devices, to me their presence just highlighted how much work needs to happen before telerobotic visitors can engage with a conference on similar footing as people physically present. I never was able to see them as a solution to anything. I experienced them as a noble, but limited, first attempt to provide remote access.

Then the unthinkable happened. The new president of the U.S. spent the months before the CHI conference attempting to introduce a travel ban that would stop people from several nations from visiting the U.S. While visa problems and financial barriers have traditionally made it hard for many to attend, the travel ban created a new and unprecedented barrier. Attending the conference became

difficult to impossible for a new swath of colleagues. Thus, the CHI organization team was—through no fault of their own—put into a position in which they would struggle to honor their own anti-discrimination guidelines.

But it seemed we had a solution already in place: the telerobots that still had not quite found their role within the CHI conference. We were lucky enough to be able to offer an existing solution to the new problem. Not only might this enable people affected by the travel ban to participate at CHI, but it also made for a beautiful narrative. *Wired*, for example, wrote about it with the headline “Banned from the U.S.? There's a Robot for That” [16]. And if there is one thing to like even more than a good solution, it's a good narrative.

I was disappointed by this chain of events. Following the travel ban, the ACM published a beautiful statement, stating that “freedom of thought and expression are central to the aims and goals of the ACM,” and asserting that freedom of movement is a requirement of such practices [17]. I felt that this statement provided the organizers of CHI with strong backing to act upon this belief. While the CHI conference chairs went through considerable efforts to minimize the negative impact of the travel ban, the response remained on a technological level. CHI, too, released statements regarding the plan, but instead of speaking up in support of freedom of movement, the CHI organization team offered telerobots

as a technological fix [18]. In doing so, they fell right into a CHI way of dealing with problems that I find problematic: To solve problems, we typically operationalize them. To understand how people touch an icon, we might reduce the problem to a ballistic motion of the fingertip. But this doesn't work well if the problem is multifaceted. To solve the problem created by the travel ban, we can operationalize it as "some people cannot travel to CHI." However, this ignores that a policy was introduced that attacks the very core values of the ACM and that a group within our community is being discriminated against.

Providing telerobots fixes the operationalized problem of viewing the conference but does not fix the part of the problem that is more difficult to grasp. It gives part of our research community the dubious choice between not attending or attending as a second-class citizen. The CHI organization dealt with the travel ban as a logistical problem, ignoring that part of the issue was political.

Attending an event as a telerobot is nowhere near an equivalent experience to attending in person (yet?). This becomes obvious if we think about our reasons for attending a conference. Pragmatically speaking, there is no real reason to do so. We can read the papers at home. If we have questions we can write e-mails. However, this is not the full picture. Attending a conference is a public performance and an exercise in serendipity. It allows us to observe how our colleagues publicly react to our or other people's ideas. It allows us to reflect on the questions asked and answered afterward. It allows us to walk up to a stranger and say, "Hey, I was happy you asked that question. I had it too. What kind of research are you involved in?"

Equally important, or possibly even more important, is the informal program outside the conference venue: for example, the opportunity to catch up over lunch with a former colleague who brings along a stranger and says, "Have you met each other? I think you'd have a lot to talk about." Also, conferences are fun. There is nothing quite like a research collaboration that originates after an evening of dancing and talking and searching for food together at 2 a.m. These informal aspects are what bind us as a community. And while telerobots can ask a question, I experience them as anonymous figures controlling a screen

on wheels, instead of as a colleague I might recognize again at another event. I have yet to meet up with a telerobot at a brewery to discuss the merits of cucumber beer.

In short, suggesting telerobots as the sole solution to the travel ban disregards many of the reasons why this ban is problematic, and it ignores the plethora of ways in which attending a conference brings our community together.

In the *Wired* article [16] it was suggested that providing the robots is a political statement. This may be true, but if they are a political statement, I fear it is not the statement we should be making. By ignoring the context of problem and solution, we suggest there is a technological fix where none exists. Rather than fighting for freedom of movement, CHI has sent out the message: "Everything is OK. We can deal with this. We have a solution." This is problematic in and of itself, but especially problematic as the travel ban was at the time being hotly debated. We had the option to weigh in on this discussion. By not engaging with the problem on a political level, CHI has implicitly endorsed the policy.

To be clear, the issue I have is not the quality of our telerobots. This type of telerobotic technology is in its infancy, and many of its problems may one day be solved. Even if the technology was sufficiently mature that able-bodied people who have the luxury of freedom of movement might choose to use them, I would still be raising this issue. Picture for a moment an imaginary country in which part of the population—maybe women, maybe people of color, maybe people from a particular region—are not allowed to attend public events such as conferences. Because this country has the best imaginable telerobots, we might argue that this is not a problem; the part of the population without assembly rights can always use a robot instead. However, while access to such a robot is clearly beneficial, it only addresses a symptom of the problem. Addressing this symptom in no way removes the structural discrimination present in this imaginary country.

Sometimes there is not "an app for that" and, especially as HCI researchers, we should be able to appreciate this and provide nuanced solutions to complex problems. The organizers of last year's CHI were thrust into a difficult situation with little precedent on how to

handle it. Given all the difficulties they faced, they succeeded in organizing a conference that many applauded for the level of access they provided to people who typically struggle at such events. I discussed my concerns with the conference chairs at the time, and I in no way mean to suggest incompetence or malice on their part. While I disagree with how they handled the situation, I understand that they were dealing with a complex situation and did so pragmatically. However, just as I would like to see our research understand the limits of its domain and acknowledge that some political problems do not have technological solutions, I would hope that in the future, our community is brave enough to engage with complex situations on a political level as well.

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 **Paul Strohmeier**, University of Copenhagen

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## Putting CHI in Place

I am in a small village in the Italian Alps for my two-day holiday. As I savor the air, the food, and the voices of my home country, I question the meaning of an academic summer spent writing papers. In search of an answer, I text my best friend: Any "tech & rural" community nearby? If such a community exists, I will join it at once. Her reply points at Esino Lario, a mountain village near Lake Como in Northern Italy (Figure 4).

Esino hosted Wikimania 2016, the annual Wikipedia conference whose past host cities have included London and Mexico City. Wikimania 2016 is interesting because it took place throughout the village: Hackathons, talks, and parallel sessions happened in schools, bars, and restaurants; delegates stayed in a network of independent hosts; and costs were kept to a minimum.

Wikimania 2016 was a brave move that resonates with the unease felt in parts of the HCI community around the current CHI conference model of "big city, large convention center, multi-star hotels." Many of us do enjoy the event: The two most recent CHI surveys available at the time of this writing (2014, 2015) indicate that more than 90 percent of the respondents would recommend the conference to others, as they value "getting new ideas and inspirations," "meeting new friends and colleagues," and "learning new