# Life at the Margins: Assessing the Role of Technology for the Urban Homeless

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Are food and shelter more important than a mobile phone? For the urban homeless, the answer to this question is unclear. Public phones are disappearing from cities, job services are increasingly accessible mainly through digital means, and modern society has become ever more accustomed to instant availability and dependent on personal communication devices. Each of these factors raises the importance of a mobile phone for finding and securing basic needs.

For society's mainstream, the march toward technology-mediated interactions is facilitating a reinterpretation of our environment. Sophisticated personal devices and context-appropriate services enable us to map our progress; to communicate with whom we wish, when we wish; to create personal space in public forums; and to distract ourselves with media, music, and games. Yet as urban social interactions are undergoing transformation in the face of these technologies, the homeless, who share the same environment, are at risk of further marginalization. As

such, it is incumbent upon us to examine the consequences for individuals who are not part of the mainstream yet whose lives are changing as a result of these technologies, whether or not they have access to them.

To assess those consequences, I undertook a study of the homeless community in Atlanta, Georgia. In Atlanta, as in the rest of the U.S., the homeless community is diverse and has evolved from being mostly single males from the laboring class to include an increasing number of families, many of which are headed by a single-parent female [1, 2]. The causes of homelessness mirror the diversity of the population. The most significant is poverty [3], but disability, addiction, and displacement (as demonstrated in the wake of Hurricane Katrina) are all factors as well. The net effect is a lack of stability: not being able to find shelter, food, a job, medical care, and services such as counseling.

Given the potential for misguided technology interventions (the over-rationalization of care, technological paternalism, or a default to universal humanism), I was interested in understand-

ing how the homeless used and perceived technology—from electronic bus passes to mobile phones and the Internet—and how that relationship affected their ability to seek basic services and participate in the larger urban community. Through this understanding, I wanted to more deeply engage some of the assumptions that we, as systems and interaction designers, have about how technology is used: what kinds of capabilities are empowering and inclusive, and conversely, disempowering and marginalizing.

In developing the study, I worked closely with two homeless outreach centers. Staff at the centers provided introductions to the community and direction on the details of the study to ensure sensitivity and appropriateness. It was paramount that the interviews I conducted with members of the homeless community were considerate of their needs and of the difficult and stressful situation they were in.

Participants in the study were given a disposable camera and instructions to take photos of their daily lives (some of which

[1] Axelson, L. J., and P. W. Dail. "The Changing Character of Homelessness in the United States." *Family Relations* 37, no. 4 (October 1988): 463–469.

[2] Foth, M. "Facilitating Social Networking in Inner-City Neighborhoods." *Computer* 39, no. 9 (2006): 44–50.

[3] Tompsett, C. J., Toro, P. A., Guzicki, M., Manrique, M., and J. Zatakia. "Homelessness in the United States: Assessing Changes in Prevalence and Public Opinion, 1993–2001." *American Journal of Community Psychology* 37, nos.1–2 (2006): 47–61.

▶ All images were taken by the participants in the study on homelessness.

[4] Le Dantec, C. A., and W. K. Edwards. "Designs on Dignity: Perceptions of Technology Among the Homeless." In *CHI '08: Proceeding of the Twenty-Sixth Annual SIGCHI Conference on Human Factors in Computing Systems*, 627–636. Florence, Italy: April 5–10, 2008.

are reproduced here). I gained visual access to areas of their lives that would have been otherwise difficult to experience, which provided me with a more detailed context for conducting the interviews.

The findings from the interviews highlight a number of areas where technology impacts the lives of the homeless (more detail can be found in a paper presented this past spring at CHI'08 [4]). One specific combination of factors demonstrates the importance of technology in the lives of the homeless: maintaining social and familial connections, managing the presentation of self, and the role that mobile phones play in both.

There are several aspects of homelessness that are disempowering, though chief among them is losing contact with an intimate support group like close friends and family, as it exacerbates the emotional stress of being evicted, the strain of living on the street, and the depression that can accompany addiction. Even if family members are unable to provide housing or financial help, the emotional support received from "staying in touch" is important to people who find themselves in vulnerable situations with a dearth of options.

The desire to stay in touch was repeated throughout the interviews I conducted. One 47-year-old man talked about the risk of becoming disconnected: "It's one thing being homeless but it's another thing… disappear[ing] from the face of the earth. And that's the biggest danger for homeless people. That's the hardest thing to manage, is when you get disconnected." Managing personal connections is complicated for the homeless, as public phones are less common and communication is presumed to occur via personal devices; where once a few coins enabled a phone call, comparatively expensive service plans and handsets have taken their place. Moreover, mobile phones were often the only stable connection they had to their pre-homeless lives—one of the women had a friend who continued to pay her mobile phone bill because, "that's the only way [my son] had to get in touch with me."

For others, access to a mobile phone and the Internet meant the difference between finding employment or continuing their dependence on social services: "I always say [one] thing that's very important for a homeless person, a cell phone, because if you have voicemail they want to call you for a job—they ain't got time to leave you no message. By the time you contact them back, they say it went for someone else." Another seasoned homeless man in the study noted that in order to find work, a mobile phone was becoming as important as a physical address. "See that's the thing, it's not just an address. You need that too, but I known guys out on the street who got jobs because they got a [mobile] phone."

For these reasons, the mobile phone appears to be a reasonable platform for technology interventions to aid the homeless. Given the story so far, it is easy to imagine a mobile phone designed for homeless individuals, perhaps distributed through local care organizations and connected to information services about housing, jobs, and health care. It might have a more rugged body and an extended battery life. All of these features are reasonable. However, once such a phone became identifiable as a "homeless person's phone," the socially critical role the mobile phone plays for the homeless would be undermined.

In addition to staying connected to the broader world, the need to manage identity—and specifically, the stigma of being homeless—was an overwhelming concern that came through during the interviews. This need was reflected in interactions with the public at large as well as with friends and family. As a specific example, in describing the difficulties of dealing with the new electronic ticketing on public transportation, one participant related a confrontation he had with a bus driver: "You know I had conflicts with the bus driver [because the fare-card reader] say there ain't no money on your card and I know my card got money on it… the machine is not working right, and they look at us like your card not working or something. And you know if we get angry that ain't gonna help us at all… I liked it the old way… you could ride a train or bus no problem." In relating the tale, he understood that his ability to negotiate a solution with a bus driver was compromised by his appearance. Not only was his use of transportation disrupted, but he also had to endure public humiliation and admonishment as the bus driver asked him to exit the bus.

The need to manage identity also arose with friends and family; one man who had only recently become homeless

described social gatherings with friends who did not know he was living on the street. During these visits he would take care to carry a mobile phone with him, even if it was not working, because "they know if I got my mobile phone I must be doing all right." Another man in the study explained that "I have had many phones where I hold on to them, but half the time I didn't have the money to put the minutes on them. I walked around with 'em anyway." Simply being in possession of a mobile phone was a way to reassure concerned friends and family—a way to be in control of how they were perceived in front of people they cared about.

Finally, for homeless individuals seeking employment, a mobile phone also aids in managing their identity at work by providing evidence of reliability and by making their homelessness less visible. The individuals I worked with expressed fear that an employer might be less inclined to hire them if they had a phone number that could be linked to a shelter or other care provider. With a mobile phone, they felt reassured that the number was theirs and that it would not be associated with their current situation.

Viewed in this light, the mobile phone provides two functions: a means of communication that maintains connections to a support network, and a kind of technological totem, imbued with social meaning. Of note is that the social potency of possessing a mobile phone comes from its being a mundane object, one that does not signify a specific status.

While the examples provided here have focused on the mobile phone as a technology with far-reaching effects on the homeless population, the broader class of ubiquitous technologies being infused into the urban environment and modern social fabric are affecting the homeless as well. The possession of and ready access to an online identity—via an email address or participation in social networks—is becoming increasingly necessary for finding services, jobs, and managing personal connections. More substantial, however, is the subversive effect that rich technology interactions have on individuals struggling with social legitimacy.

As the mainstream becomes more engrossed in new social interactions across a variety of technologies, the effective gap between the mainstream and the margins increases, and the visibility of those at margins becomes obscured by the creative ways in which we reconstitute our world through those rich technologies. As we strive to enrich our own lives with social media, novel interactions, and uninterrupted connections that transcend our immediate geography, there is an opportunity to open our environments to interpretations that are more inclusive of diversity, with the understanding that social legitimacy should not be determined by access to technology.

Where access is vital, how do we design for marginalized users like the homeless? The most important consideration is to understand that access to technology itself is not a panacea. Instead, we need to understand the particulars of the local community, their social context, practical needs, and how those needs are currently being met. Where a mobile phone may provide an opportunity for delivering more sophisticated social services, those services need to be made available in ways that are empowering and support the management of identity, the freedom from stigma.

One way to more appropriately conceptualize the design mandate we should shoulder is through designing for dignity. While some aspects of homelessness can be viewed as problematic, inscribing paternalistic solutions into technology interventions risks further disenfranchising vulnerable members of our society. Designing for dignity is a shift in focus, away from rationalized responses to problems toward empowering people through approachable design and inclusive systems. It is a call for increased social responsibility and a bringing to bear the talent and creativity of this community to help not just the homeless specifically, but also other marginalized, disenfranchised, and difficult-to-reach communities locally and globally.

**ABOUT THE AUTHOR**
Christopher A. Le Dantec is currently a Ph.D. student in the human-centered computing program at Georgia Tech. His research is taking aim at how marginalized communities like the homeless are affected by social change inherent in the adoption of new technologies. Prior to Georgia Tech, he was an interaction designer with Sun Microsystems and helped establish its interaction design practice in the Czech Republic.