# WHERE THE STREETS HAVE NO NAME — A FIELD TRIP IN THE WILD

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**Insights**

→ Smartphones not only provided the Anganwadi workers a tool for communication, but also enabled the workers' empowerment through applications such as Facebook and WhatsApp.

→ In a conference-linked field trip, it is unlikely that the researchers and users will meet again; therefore, the users' responses must be carefully considered when drawing conclusions.

IMAGE BY ANDREEA NICULESCU

When Bono of the iconic rock band U2 composed the song "Where the Streets Have No Name," he believed it was possible to identify a person's religion and income based on their street address. In this article, we discuss neither religion nor income. Instead, we share our experiences of conducting a field trip in Dharavi, Mumbai, as HCI researchers with a focus on designing interactive solutions for the people living there, the *users*. The title of this article represents two things: First, streets inside Dharavi actually do not have names; and second, the title relates to the terms and phrases *going into the wild*, *real world*, *uncharted waters*, and *terra incognita*, all relevant to us as researchers, especially a team belonging to different cultures, nationalities, and backgrounds. The main benefit of such field studies is that they often lead to creative and serendipitous innovations [1]. "Knowing thy user" is the primary motivation for conducting these studies, providing us with the whole gamut of human experiences. With them as our guide, we can develop solutions [2].

**GETTING STARTED**
It all started with a call for participation for the Field Trips track, a first in the

history of the INTERACT conference. Biju Thankachan, one of the authors of this article, is involved in a study about designing user interfaces for low-literate rural healthcare workers in Central India. This field trip was in a way an addendum aimed at understanding low-literate users in an urban area. The title of our field trip was "ICT-Based Interventions for Anganwadi Healthcare Workers in Mumbai" [3]. Anganwadi workers form the core of the healthcare system for a large section of the rural and semi-urban population in India. They provide health-related information to pregnant women and care for newborn babies, and also play an important role in immunization programs. Traditionally, Anganwadi workers use paper handouts to help raise awareness in their work. Although mobile phones had made inroads into the daily lives of these workers, their role was for basic communication (e.g., making a call). We had not yet seen how mobile devices were used as professional tools.

There are enormous challenges in addressing the issue of mobile phone usage, especially in developing regions, owing to numerous factors such as illiteracy, cognitive difficulties, cultural norms, collaboration challenges, lack of experience and exposure, lack of motivation, power dynamics, and social standing. The purpose of this field visit was to inquire into the role of mobile devices in the day-to-day work of Anganwadi workers in Dharavi—particularly, whether mobile phones were being used as a technological intervention, and in what manner and form. The field trip would provide an opportunity to interact with potential users of technology; understand their needs, concerns, preferences, and expectations regarding technology; and give us insights for developing ICT-based solutions for this user group. The team consisted of two

organizers and five participants, including a student volunteer. Five members of the team were Indian nationals (including the organizers), and two were Europeans.

## THE STREETS OF DHARAVI

The field trip was conducted in Dharavi, Mumbai, one of the largest slums in Asia, spread over nearly a square mile, with a population of more than a million people. Dharavi gained global attention with the popular movie *Slumdog Millionaire*. As is common in Hollywood—and sometimes in research—the real world or "in the wild" is portrayed as a chaotic yet exotic faraway land, waiting to be fixed. This is far from truth—Dharavi has a bustling economy, and is in fact often called the Durable Slum [4]. Its characteristic ecosystem includes different unregulated, small-scale industries manufacturing leather goods, garments, and earthenware that flourish alongside the residential shanties (Figure 1). The crisscross of narrow lanes is a giant maze; only locals know their way around. Despite the oddities, Dharavi is a self-contained, self-sustained locality with schools, Anganwadi centers, clinics, grocers, electrical-repair shops, Internet cafes, and all that is necessary for a small city. What better way to break the stereotype than by visiting the place and interacting with its people?

It took us nearly an hour by cab to reach Dharavi from the conference venue (IIT, Bombay). We met up with the local NGO representative from Daya Sadan, the school and skill-development center where we would meet and interview the locals participating in the field trip, and proceeded through the narrow lanes, in some places wide enough for only one person. Everywhere we saw electrical wires, TV cables, and water pipes all coiled together. This

surprising array of cables and pipes (Figure 2) seems like a safety hazard but nonetheless was a common sight. Finally, we arrived at Daya Sadan. The place was noisy, as there were women working on sewing machines, so we had to move to the corner to conduct the interviews. True to the Dharavi spirit of diversity, we interacted with Tamilian immigrants (people from the southern state of Tamil Nadu) in a Christian school, with prayers audible from a nearby mosque.

Dharavi's portrayal in movies and documentaries, including Bollywood movies, in addition to the national and international press has resulted in a tourist culture. Guided tours emphasize its popular media image. With the field trip, however, there was no tour guide. Walking through the streets with the Daya Sadan representative, we got overwhelmed. We'd all known we were coming here, and many of us had some idea of what it would be like from photos and movies like *Slumdog*. Yet even for the local researchers, the experience was unlike any other.

## THE DISCUSSIONS

Dharavi alone has close to 300 Anganwadi centers; the workers are involved in spreading healthcare-related information in that area. We spoke with six female Anganwadi workers, ages 30 to 43, and with between 10 and 22 years of experience. Their educational level ranged from 10th grade to high school graduate. Despite the fact that these users are not low-literate, it was interesting to interview them about their technology usage within the context of slums.

We planned to conduct one-on-one interviews with the Anganwadi workers. However, we had to change our plans because all the workers arrived at the same time. Instead of making some of them wait, we decided to conduct focus groups, as it would have been difficult to conduct six parallel interviews. We divided ourselves into two groups with three users each. One group had three researchers; the other one had four. We ensured there was at least one female researcher/volunteer in each group so that the users felt comfortable during the discussion, as it touched on topics such as pregnancy and sex education (we assumed there could be some reluctance to discuss these issues

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Figure 1. Locally produced earthenware on the streets of Dharavi.



Figure 2. TV and electrical cables hang with green water pipes.

IMAGES BY ANDREEA NICULESCU

with an all-male or all-international researcher group). We used the interview guide we had prepared for the focus-group discussions, asking them primarily about technology usage—particularly mobile phones—in their daily lives.

In the first group, two users owned smartphones, and one user had access to a regular feature phone; in the second group, only one user owned a smartphone. We term as *smartphones* ones that are touch-enabled, whereas *feature phones* are button-based devices such as the Nokia 3310 (older version) or Samsung Duos. Although smartphones have gained popularity among all sections of the population, a large section still does not have access to them, owing to cost, fear of damage, and the perceived difficulty in usage.

The discussion included questions such as: Have you used a touchscreen-based phone? For what activities do you use your mobile phone? Do you use mobile phones for work-related tasks? Have you played any games on the mobile phone or used the phone for fun-related activities? These questions were the icebreakers to get the conversation started. Users with smartphones were very familiar with apps such as WhatsApp and Facebook. The healthcare workers had their own WhatsApp group through which they shared work-related documents by taking pictures and sending reports. Those users who did not have access to smartphones often

asked their colleagues who had one to send messages on their behalf. The users mentioned that in one of the WhatsApp groups, their supervisor was also a member but did not have administrator privileges. This gave them a feeling of empowerment, where despite being lower in the social hierarchy, they retained control over the group's activities.

Through Facebook, users got information like birthday reminders for people within their social circle. One user mentioned that it is more important to wish friends happy birthday on Facebook than in person, because everyone in their social network will see the Facebook posts. This works in two ways: It makes the recipient feel special when they have lots of birthday wishes on their timeline, and it also serves as proof for the sender, in case the recipient forgets in the future. Overall, Facebook was mainly used socially, while WhatsApp was used both with friends and family, and for work. Besides the use of WhatsApp and Facebook, smartphone usage was limited. Users with feature phones, as expected, were less tech-savvy and used their phones only for voice calls. However, users were willing to learn to use and experiment with a newer phone or app.

The discussions provided a number of insights for the researchers. They helped us understand the current practices in technology usage, and mobile phone usage in particular. They also helped

us in analyzing the routines of the healthcare workers and in identifying pain points where new technological interventions could be designed. Bookkeeping, gamification, user-specific social media, and educational tools are some of the avenues where new forms of interventions for the healthcare workers can be explored.

## BREAKING THE STEREOTYPES
After the whole experience, the big question is: What new insights into "knowing thy user" did the study offer? The answer: It provided a way to break the stereotypical notions about people living in slums.

Evidence shows that smartphones have been spreading strongly in India during the past two to three years. In 2016 there were a billion mobile phones and 220 million smartphone users. WhatsApp is seen as an important feature of smartphones and in 2016 already had around 100 million active users in India—the biggest market for WhatsApp [5]. Still, it was fascinating to listen to some of the users explain how smartphones and WhatsApp are a natural and essential part of daily work practice.

Three patterns that reflect the discourse in ethnographic studies were particularly interesting: situated action, flexible workflows, and mutual awareness [6]. Situated action refers to the fact that, in general, cooperative work is planned and well organized but needs to be adapted to each situation

and its contingencies. For instance, workers photograph paper documents. These photographs are then used as scans, allowing users to work at multiple sites without lugging around lots of files. One user told us that if the manager requests a document or a report, she can always provide it immediately—no matter where she is. Mutual awareness plays an important role. The workers regularly keep each other up to date via phone calls and WhatsApp messages. Additionally, the scans are shared with colleagues, which, as one user told us, are the basis not only for informing one another but also for backing up documents.

Overall, our users were literate, active users of technology and applications such as WhatsApp and Facebook, professional in their handling of sensitive topics on reproductive healthcare, and potentially using technology to feel empowered.

## WHAT NEXT?

All the field trips during INTERACT were one-time events. There is little possibility of repeating the field trip or of interacting with the users again. Since all the participants of the field trip had gathered on the sidelines of attending the conference, a second visit for a detailed contextual inquiry would have been difficult. However, in situations where all the researchers belong to the same city or somehow travel and other logistics are taken care of, then such a field trip could prove beneficial.

Another big challenge was ensuring the efficacy of the whole exercise. Since the users knew that they would be interviewed by the researchers, an element of "demand characteristic" about what the researchers were looking for is likely to have figured in the users' responses [7]. Moreover, since it is unlikely that the researchers and users would meet again, the responses of the users should be carefully considered when drawing conclusions.

The researchers came from different backgrounds, nationalities, domains, cultures, and experiences. They also had different motivations and expectations for joining the field trip. It was quite possible that the researchers would meet for the first time and not form a team dynamic. In such a scenario, individual researchers might move toward fulfilling their own interests, which sometimes could detract from the field trip's overarching goals. Although pre-prepared questions might help us to stay on topic, personal opinions and pursuits are difficult to exclude.

When the conference is over and everyone has said goodbye, the thought comes: What next? This field trip has given us the possibility for future collaborations. One example is the writing of this article. There is also the potential to extend our research and form new teams for a project, funding application, or research paper. Last but not least, bonding and friendship were another important outcome. Conducting the field trip again with the same team members, too, is a dream, however distant.

## ACKNOWLEDGMENTS

### ENDNOTES

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