

Engaging different worlds, one fieldtrip at a time

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Nine HCI researchers from different cultures, backgrounds, and nationalities came together for two hours to discuss the role of technology in the day-to-day life of nine parents and their children, from Dharavi. The stories shared varied from experiences of parents wanting their children to study more and play videos games less, to a point blank question on the *need for technology and the internet*. There was a shared reminiscence of a socially driven past, a hope for a better technology capable future, and a critique of the present day fuss over technology. People whose paths would not have crossed otherwise shared some laughs, some unexpected questions, and an unparalleled social experience, starting from having to sit on the floor in a circle. This article discusses the potential and perceived *value* of such a fieldtrip towards engaging people from different worlds with respect to the HCI goals of *design for good* or *HCI for development*.

The fieldtrip aimed to understand parental perspectives of low-income urban communities towards technology for education for their children. Parents are one of the driving forces and motivators for long-term educational technology adoption and acceptance, especially for children with low-technology access. Studies with rural Indian parents have highlighted several challenges and opportunities in technology adoption and acceptance among low-literate rural communities [3]. However, since parents in urban areas are more exposed to technology - smartphones, tablets, and computers - in their environment, this presents different design opportunities. Thus, what works for the one group may not work for the other. The one-day fieldtrip used a semi-structured discussion framework based on economic, socio-cultural (social practices, technology aspirations, positive aspects and expectations, and inhibitions), organizational and environmental (e.g. current state of technology usage in the school, expectation from teachers, and supporting infrastructure) perspectives. We divided into three groups for discussions, where each group adopted a slightly different approach for interaction - from intermittent translations of responses for international researchers to summarizing the responses to each question in both English and Hindi. This difference in the level of interaction influenced the experiences of the Indian and international researchers, the group dynamics and interactions, what we

perceived as the parents' experience, and therefore, the *value* gained from being there - for everyone involved.



<Figure 1: Group discussion at Dharavi>

Technology hype and everyday life

The first group consisted of one Indian and two international researchers and two parents. The parents spoke Hindi and a variant of Marathi, spoken by the Koli community to which they belonged. Surprisingly, the Indian researcher also belonged to the same the community. It soon became apparent that technology for the parents meant a TV and 2G mobile phones. However, the discussion framework *assumed* that parents are using a smartphone or computer technology. The two parents in this group did not use smartphones or computers with their children, their husbands, or even by themselves. Putting the questionnaire aside, the researchers began an open-ended conversation with the parents. The Indian researcher enthusiastically described the benefits of having internet access; however, the parents remained skeptical. They gently insisted that they only needed their 2G phones to make and receive calls, and that their husbands added new names and numbers into the phones. As is common with users with low levels of literacy, the parents used a mnemotechnic approach to retrieve names in their phone's contacts [2]. Their 2G phones were carefully wrapped in small towels to protect them from the humidity and the notorious Mumbai rains. When asked if there was an Internet café near their home, they said they were not sure.



<Figure 2: 2G phones used by parents>

The researchers realized that even though the parents had what would be considered a low technology adoption profile, they felt like they were not at any disadvantage. Their children attended a local school, they paid their electricity bills at a local shop, and are updated about most things that mattered to them through conversations with their local neighbors and merchants. They simply did not feel the need to use the phones for anything other than calls, and especially not for the ‘internet’. They exclaimed that they would probably be scolded by their husbands for wasting time on the ‘internet’ instead of doing their usual chores (an example of maintaining traditional gender roles). For one of the parents, the Indian researcher changed the phone’s language to Marathi, and in a very short time, it appeared as she gained a proficiency with her phone that she had not known before. The other parent continued to use the English language setting because she had become familiar and comfortable with reading English letters as symbols.

From the perspective of the parents, this encounter with seemingly technology-obsessed researchers could range from mildly amusing to one of annoyance, because of the wait that ensued as the others groups finished. For the researchers, who were new to fieldwork in India, this provided an opportunity to interact with a completely different world, possibly reevaluate their understanding of the digital divide, and experience firsthand the resourcefulness and ingenuity of people, for whom a specific technology was not explicitly designed. Advocating changes to people’s lives that include the introduction of new technologies can be difficult (and resisted) unless there is a perceived benefit or there is a need that they themselves identify [4].

“Mobiles are as good as they are bad”

A second group, with one Indian researcher, two international researchers, and three parents, went through the entire discussion framework. The parents of this group spoke

fluent Hindi and short sentences in English, using several technical terms like using *google search for* [their children's school] *project work*, and naming applications, such as, WhatsApp, Wi-Fi, Facebook, Chrome, and Google DUO. With summaries of the responses from the parents in both English and Hindi, the international researchers could ask follow-up questions. When asked about technology improvements they would like to see, one parent reflected profoundly, in Hindi – “*mobiles are as good as they are bad*”. This was followed by several stories on the dark side of technology, as heard on the news or from friends. From the harmful consequences of mobile and other social games where teenagers are asked to complete dares that are increasingly harmful, with the potential to be fatal. To the disappearing population of the local sparrows due to radiation from cell phone towers, which was apparently made popular in the Indian media by a famous Bollywood actress and her campaign against cell tower radiation within the city. The parents also shared their concerns and expectation from technology - to be more than just games for fun, for instance, and enhance their child's skill development and learning. They asked for recommendation for mathematics and language learning applications for children and the researchers suggested Khan Academy and Duolingo. This exchange in itself is testimony to the level of comfort shared by all in the group.

Although the parents were not asked about their experiences after the discussion, it can still be said, going by their enthusiasm, that they found the whole experience as engaging as the researchers. For the researchers, the discussion brought a different perspective towards what it means to design for *marginalized communities*. The concerns and expectations of parents, say in the UK, and the ones present in Dharavi during the fieldtrip, are more or less the same. Therefore, technology design should focus not only the perceived needs of *marginalized communities* but also of their future aspirations, which is the new mantra for emboldening HCI4D [1 & 5]. Therefore, the human experience of raising a child in this rapidly changing technology landscape brings with it similar experiences, challenges, and maybe even opportunities for everyone across the world.

The experience of the context

In the last group, one Indian researcher and two international researchers with three parents covered the questionnaire framework. The parents used smartphones with mobile data plans from a popular low cost service provider. The parents had high aspirations for their children and they saw the internet as an enabler to access information. The parents were part of the school's WhatsApp group, on behalf of their children, and communicated with class teachers and other parents. Although they were not sure of how the internet can be misused, they still preferred to be safe by keeping a watch on the child's mobile phone usage. Translations of parent responses were done during conversational pauses in order to not break the communication flow; however, this created a situation where the international researchers felt rather isolated from the conversation, with little scope for interaction. They passively observed the discussion but could still interpret the body language a little to establish whether the responses were positive or negative. Greater interaction occurred after the formal discussion, while the group waited for the others to finish. Frequent translation might have enabled the international researchers to ask specific questions or talk about similar experiences, and for parents to interact with them.

From the perspective of the parents, they might have felt like they were being watched by a group of tourists whilst being interviewed, although there was no evidence that they felt uncomfortable by the international researchers' presence. Moreover, since the researchers were all males and the parents all females, this could have created a more *formal* atmosphere. This group was the first to finish the discussion, which was later attributed to the "formal atmosphere". For the researchers, the experience allowed for a greater understanding of the culture and environment in which a particular technology is used, and not just the parents or child's use of technology. This experience of the environmental context would have been completely missed had the discussion taken place at the conference venue instead.

Lessons learnt



<Figure 3: Researchers sharing the experiences after the discussions>

The researchers shared their thoughts and experiences later that day at the conference venue and continued to discuss through email and Skype for the purpose of this article. The new perspectives gained from the one day fieldtrip, and how to prepare better were we to do it again, are described next.

First, it is important to understand and appreciate the diversity of digital experiences even within a supposedly "homogeneous" group of people. For instance, two of the parents in our fieldtrip did not use a smartphone or the internet, and did not feel the need to use either. However, our discussion framework assumed all parents would have online experiences. In such a case, an open-ended conversation was more effective than sticking to a fixed questionnaire. Furthermore, a backup questionnaire for parents without online experience could have revealed interesting insights into people's day-to-day activities and where technology may or may not be useful. Therefore, when designing for communities that are

marginalized or low literate, it is imperative not to clump them together, and to understand the diversity within. After all, Dharavi is home to an estimated one million inhabitants [6].

Second, we need to decide on the degree of translations for international researchers. For instance, in our fieldtrip, the level of translations depended on several factors - the parents' level of comfort with the discussion topic and the languages they spoke, the level of expertise of the researchers on the topic and with fieldwork in general, and the main objective of the fieldwork. With the parents who had no online experience and did not speak Hindi or English, the researchers were very sensitive towards making them feel comfortable, and therefore, focused entirely on having a conversation, which did not allow for translations. For the parents who were tech savvy and spoke fluent Hindi and a little English, translations were easier and more frequent. Moreover, all the researchers in this group had an expertise in child-computer interaction (CCI) and were interested in probing further with follow-up questions. In the last group, researchers whose domain is CCI felt unable to contribute to the discussion because of infrequent translations. There was a difference in opinions amongst us researchers on how much to translate. In such cases, it is important to also consider the fieldtrip's main objective - which was in this case to engage everyone. There is, of course, great value in the diversity of the researchers' experience and domain of expertise, but it brings with it different individual agendas - from experiencing fieldwork to a chance to expand ones' area of expertise.

Third, researchers need to be mindful of the fact that we come from a privileged position and that our worldview is not be applicable everywhere. For instance, low adoption of technology may not be inherently negative. The ecosystem for the residents of Dharavi seems to be quite stable - people find a way to work out solutions that work for them, e.g. remembering shapes of letters, paying bills at the local shop (rather than online), and making and receiving phone calls. What researchers in the field of HCI, especially those working for development and those with rigidly technology-dominant notions of progress, would describe as the problematic digital divide, was casually cast aside by the parents, in our fieldtrip, with laughter as the researchers explained to them the 'wonders' of ICT. Furthermore, researchers require an understanding of the local context for a sufficient analysis of responses. When several parents mentioned the low population of sparrows or the fatal social dare game, the researchers were quite surprised. However, a quick check revealed this information to be propagated through the local news and media, thus not necessarily an outcome of living in Dharavi. This, therefore, reflects on the parents being quite up to date with the local news and information, quite possibly via their phones.

Finally, researchers need to move away from the rigid notion of what it means to design for *development* - that is, designing for user *needs*. Current design practices focused solely on user needs are unable to support sustainable, scalable, or impactful outcomes. The technology is not always adopted in the long term, after the study has ended and the 'researchers have left' [1 & 5]. Toyama [5] urges us to think beyond designing for user needs, for that model unknowingly projects researcher, or designer, needs on to their users. Instead, one should focus on designing for people's aspirations. For instance, in the fieldtrip, the different roles and backgrounds the people brought in, for those hours, converged on the experiences of mothers across the world wanting children to study more and play videos games less, the influence of technology in shaping our social lives every day. Aspirations of the future and experiences grounded in the present were similar the

world over. HCI researchers, designers and practitioners, with varying domains of expertise and level of fieldwork, coming together, even for two hours, and interacting directly with people of so called *marginalized* communities, is the first step forward to redefining design *for development* and breaking misconceptions about the *urban-poor* [4].

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