

# Designing for Uprooted Children: Issues, Challenges and Opportunities

[~2150 words not including title/refs | target is ~ 2000]

## Introduction

Across the world, about 50 million children have been forced out of their homes due to violence, extreme poverty, or natural disasters [1]. While forced child migration is not a new phenomenon, the number of child refugees has more than doubled since 2005 [1]. Increasingly this growing group relies on, and may benefit from, digital technologies throughout their journey of displacement and resettlement.

Given this context, we believe it is important for the human-computer interaction (HCI) community to consider what, if any, role we can or should play to alleviate the difficulties faced by uprooted children and their families. To begin this discussion, we hosted a Special Interest Group (SIG), entitled “Child-Computer Interaction SIG: Designing for Refugee Children” at the 2019 ACM CHI Conference on Human Factors in Computing Systems (CHI 2019) in Glasgow, UK. In this article, we provide an overview of some of the challenges affecting uprooted children followed by a summary of the CHI 2019 SIG discussion focused on the issues, challenges, and opportunities relevant to the HCI community.

## Experiences of Uprooted Children

The experiences of uprooted children vary significantly based on many factors, including geography, age, gender, financial resources, and the presence or absence of caregivers. However, certain challenges are shared across groups, in particular issues and risks associated with violence, poverty, and lack of access to basic services. Most children become uprooted because they face dire realities in their homeland, where they often lack access to education, healthcare, and economic opportunity [3]. A large number of uprooted children begin their journey in war zones (e.g. Syria, Afghanistan, and Somalia) where they may have witnessed traumatic violence and lost close family members [3]. Others come from regions with recent civil wars and subsequent high crime rates (e.g. El Salvador) [3]. In both contexts uprooted children risk being recruited into armed groups or criminal gangs (mostly impacting boys) or being subject to sexual violence (mostly impacting girls). As a consequence, uprooted children begin their journey with a variety of physical and mental health issues and educational challenges, which accrue as they journey to unfamiliar destinations.

Migration journeys may bring some relief to these conditions, however, issues and risks associated with violence, poverty, and lack of access to services often continue during children’s journeys [3]. Access to education and healthcare often continue to be significant challenges during migration [3]. The impacts of these challenges may be mitigated by the availability and quality of interactions children and their families have with a variety of people and organizations on their journey (e.g. aid

organizations, support works, educational and health resources). Interactive technologies, when available and accessible, can play a vital role for families and children in facilitating these relationships and providing access to resources [2, 3].

Arriving in temporary or final destinations can bring additional challenges. Children may have to stay in unsafe and/or unhealthy detention centers with inadequate educational and health resources [3]. They may be separated from caregivers, and have to go through administrative processes (e.g. court proceedings) they do not understand to gain protective legal status [3]. In other cases, they may enter countries illegally, resulting in other risks. For example, they may be smuggled into a country only to be enrolled into a human trafficking operation [3]. Once uprooted children settle in their final destinations, they still face the accumulated challenges associated with being uprooted including their experiences of violence and poverty, unaddressed health concerns, and educational lag [3]. In addition they also face concerns related to immigration, including language barriers, cultural adaptation, legal obstacles, and xenophobia [3, 4].

### Special Interest Group

The CHI 2019 SIG arose from concerns in the child-computer interaction community on this topic. The goal was to discuss possible opportunities and roles for researchers in HCI and technology development to aid uprooted children with a focus on refugees. We convened taking into account three major caveats. First, we were cognizant that interactive technology was unlikely to have a major impact on the systemic issues behind forced migration. Second, we acknowledged that uprooted children are an extremely vulnerable population, and as a result, any consideration of research or technology development with or for them should be done with the greatest of cares. And lastly, we noted that there is much diversity among uprooted children, which results in a variety of needs, abilities, and preferences. Any research program targeting a subset of this population must clearly understand and respond to these situational specifics.

Prior to the SIG, the co-authors met to brainstorm topics to focus on in small group discussions during the meeting. The five topics included: (1) ethics, (2) education, (3) social distance, (4) mental health, and (5) media, process, and partners. The SIG included participants with a wide variety of backgrounds – some were already working in refugee camps or developing digital media for refugee children, while others had no background with vulnerable populations. Participants formed groups based on their interest in one of the five topic areas. The groups were then asked to discuss and report back on their chosen topic in terms of issues, challenges and opportunities. The following is a summary of the groups' reports back to the larger group by topic.

### Ethics

Although some guidance for working with vulnerable populations exists, the *Ethics* group was cognizant of the unique issues and challenges associated with working

with uprooted children and families. Group members identified the need for cases and guidelines that could be used to train research teams in advance of interaction with uprooted children. They also identified the concurrent need to prepare researchers for in-action ethics, that is, ethics that happens on the ground. This was deemed necessary so that researchers could ethically respond to and mitigate challenging and unforeseen situations as they emerged during research projects. This group also discussed the importance of providing socio-emotional support for both research participants and researchers. For example, both groups might benefit from culturally appropriate counseling before, during or after engagement in research. The group identified the opportunity for HCI researchers to draw on and work with applied ethicists to address these issues and challenges proactively.

The *Ethics* group also discussed ethical challenges that might occur around establishing trust with children's guardians, who may or may not be their family members, and who must provide consent for researchers to work with children. As families grapple with the innumerable challenges associated with migration, taking the time to meet with researchers is unlikely to be a priority. In addition, there are likely to be language barriers, legal concerns, and cultural differences to overcome. As a consequence, the group noted the critical importance of ensuring in advance that there would be significant benefits for children and their families participating in research. Additionally, the group felt strongly that researchers working with this population must take time to understand the ways that they could give back to uprooted communities, with consideration to uprooted communities' needs for ongoing supports that may extend beyond the timing of research grants.

### Education

The *Education* group discussed the widespread need for formal education for uprooted children during their journeys, but also emphasized the need for informal education available in temporary living places and upon settlement in new communities. Language learning was identified as a key opportunity. Addressing the need for informal learning requires research to understand culturally specific issues, such as gender issues that might be considered and ameliorated through educational resources. With these caveats in mind, the group suggested that there are many opportunities related to the use and creation of online self-directed learning programs that may bridge these gaps until formal schooling is possible. To provide benefit in this area of research, children must have both motivation and access to devices and the Internet, which can be challenging for uprooted children.

### Social Distance

The *Social Distance* group identified three different types of uprooted situations, each which may have different needs in terms of supports required to integrate into new communities: (1) children in long term refugee camps, (2) children in short-term refugee and/or migration camps who are on the verge of relocating, and (3) children who are in transition or have just recently relocated. However, all groups can be victims of misinformation both within the group, and more broadly about the group. This raises an area where interactive technologies (e.g. social media) could

play a positive or negative role. Again, the importance of working with and simultaneously understanding possible deleterious effects of religious or cultural differences that might result in exclusion or stigmatization of children was highlighted. This group identified the need for HCI researchers to conduct preliminary research to identify specific or targeted opportunities where there are large potential benefits in terms of utilizing media to reduce social distance.

### **Mental Health**

The *Mental Health* group focused on challenges related to different stages of the migration journey. For example, when children first arrive at a temporary camp, the group suggested that researchers need to find appropriate ways to communicate with children who may be traumatized, have different religious or cultural backgrounds, and may have little access or skills related to technologies. They highlighted research opportunities related to creating accessible technologies that can bridge this communication gap. Later, when children are in transition, they need to connect with people who can help them find and access mental health resources and services, with people from their own culture, and/or people trained to support mental health issues. For example, there may be opportunities for technologies that can provide peer support networks or provide storytelling that connects them with their culture in order to maintain or re-establish a connection to their heritage in order to support maintaining their prior identity while integrating into new cultures and communities. The group suggested that connection oriented supports are likely to continue being useful as children move to stable living situations, in conjunction with the educational supports described above.

### **Media, Process, and Partners**

In terms of *media*, this group suggested the need for material around communication of emotions, self-reflection, and needs assessment. As an example, they pointed out the role that Sesame Street television has played in providing low verbal communication models, including animations and songs around emotions, that may support children to become digitally, linguistically, and emotionally literate over time. Care must be taken to avoid stigmatization or polarizing language. However, when potentially beneficial digital products are not labelled explicitly as supports for this population in order to not stigmatize, this also provides barriers for families searching for digital products for their children. Access challenges can be addressed with downloadable content that is available offline and designed for extended use so that benefits can be realized. In terms of *process*, the group discussed best practices such as using music, games, stories, art, and cooking as ways to engage with uprooted families and children. Lastly, the need for negotiating partnerships and relationships with stakeholders internationally (e.g., rescue committees, NGOs) locally was highlighted as an opportunity for HCI research. For example, one way that researchers may help uprooted families is to co-develop relationships with these organizations as part of research projects, which might improve ancillary benefits such as access to resources, programs, and other supports, as well as providing a sense of agency to families engaging with researchers.

## Conclusion

SIG participants identified a variety of issues that must be considered when planning or conducting HCI research with uprooted children and their families. It is paramount that researchers access ethical guidance and training that can prepare them to address the unique sensitivities of working with this population. Technical interventions must be designed with an awareness and understanding of contextual, temporal, cultural, (mis-)informational, and gender issues. Researchers should identify the specific issues associated with each research site and population early in the planning stages of any project. It is also critical to understand and estimate the potential risk versus benefit of any research project with uprooted children. While the benefits may involve digital content or technologies, researchers should also consider other potential ancillary benefits and ways they may support their participant group before, during, and after research projects. Within these constraints, the SIG participants identified opportunities for HCI researchers in the areas of informal literacy resources and culturally specific mental health applications for children living with trauma. This includes accessible informational resources that can be used within and about specific population groups to reduce social distance, supports for connection to cultural and migration related resources, and applications that utilize processes including music, games, stories, art, and cooking as ways to productively engage with and support uprooted families. While working with hard to reach populations such as uprooted children can be immeasurably rewarding, it is complex and difficult work, and the group advised those undertaking it to ensure they partner with relevant experts and organizations and, as with all matters requiring sensitivity, to move slowly and carefully.

[1] Children uprooted. UNICEF. n.d. <https://www.unicef.org/children-uprooted> (accessed June 05 2019).

[2] Rianne Dekker, Godfried Engbersen, Jeanine Klaver, and Hanna Vonk. 2018. Smart refugees: How Syrian asylum migrants use social media information in migration decision-making. *Social Media + Society* 4, 1 (Jan. 2018), [doi.org/10.1177/2056305118764439](https://doi.org/10.1177/2056305118764439)

[3] Cecilia Menjivar and Krista M. Perreira. 2019. Undocumented and unaccompanied: Children of migration in the European

Union and the United States. *Journal of Ethnic and Migration Studies* 45, 2 (Jan. 2019), 197–217. doi.org/10.1080/1369183X.2017.1404255

[4] Roberta Satow. 2018. Migrant families and attachment. <https://www.psychologytoday.com/blog/life-after-50/201807/migrant-families-and-attachment> (accessed June 05 2019).