BACKGROUND
Each year four million people migrate across national boundaries (Sachs, 2016), with an estimated total migrant population of 244 million worldwide. When considering internal migration, scholars estimate that there are 740 million internal migrants (Harttgen & Klasen, 2009), with large proportions of these moving from rural to urban areas.

Due to the multidimensional nature of migration, the UN has a number of different agencies that focus on specific root causes, effects of, and response to these large scale movements of people. The Global Migration Group (GMG) is a body of 21 of these UN entities, aimed at developing more coordinated and comprehensive approaches to this multinational issue. In 2017 the GMG is chaired by the Rector of United Nations University (UNU). To support the Rector in this role, a key priority for the UNU Migration network that UNU-CS is part of, is to ensure that GMG supports UN member states, especially in the lead up to the adoption of a Global Contact on Safe, Regular and Orderly Migration (GC/M) in 2018 (Annex II of the 2016 New York Declaration for Refugees and Migrants (UN, 2016)).

The Migrant Technology group is one of the newest research groups at UNU-CS. It is premised on investigating how migrant workers can use technology to enhance their critical agency and change their overall conditions. Initial research in this group sought to understand how technology could be used by migrant domestic workers to increase their critical agency. The research has now broadened to include a set of migrant groups in different situations that will be framed in this document.

APPROACH
The project consists of two phases. In the first phase, we undertake a series of case and design studies, each of which follows the four stage process outlined in Figure 1.

The second phase is to draw from the findings from each of the case and design studies, as well as a combination of desk research and expert consultation, to understand and identify how innovation can support migrant workers in vulnerable situations. These two phases will now be described further.

Phase One
The four stages that inform the design of each of our cases are described further below.

Figure 1: four stages of our research

In the first stage, migrant workers (MWs) and socioeconomic conditions surrounding their communities are identified. The second stage involves understanding the needs of that community. In some cases, the needs of the communities have already been identified through existing literature while, in other cases, this step will form an integral component of the cases. Theoretical frameworks such as communicative ecologies will be used to provide a holistic and nuanced understanding of a community’s existing information ecologies, ICT infrastructure, and use of ICTs. By using an ecological metaphor to understand the interaction between ICTs, formats (platforms) and activities which organize communication within the confines of a specific locale or geographic space, this theory seeks to recognize significant social processes that play a role in the social organization of the daily lives of individuals and communities (Altheide, 1994). By understanding...
these networks as an arrangement of technological, social, and discursive elements allows the research to interrogate the, “multi-modal communication connections, shaped by particular social and cultural conditions” that are used by people to “construct knowledge and achieve goals” (Broad et al., 2013, p. 328). The network metaphor also supports the possibility of network analyses of relationships between members of the ecology (Foth & Hearn, 2007). Based on a thorough analysis of the migrant needs at the level of individuals and community, technical solutions will be co-designed, developed, and evaluated by stakeholders (stage three). This stage will include running workshops and other community engagement strategies, to ensure ownership and buy-in of the solutions. Stage four involves an evaluation of the impact of each of the solutions that were developed.

**Phase Two**

Phase two of this project proposes the use of Zheng and Stahl’s Critical Capability Approach of Technology (CCAT) (2012), which combines together the strengths of the capabilities approach and the rich theoretical grounding of critical theory for understanding the enabling and constraining factors of human agency. The CCAT allows us to draw from the findings of the three case and design studies, and evaluate the social implications of the use of technology by migrant workers. We use Richmond’s (1988) continuum of proactive and reactive migration to represent the level of agency in a person’s decision to move. Our three case and design studies represent different points on this continuum, with the aim to understand how technology can be used to empower migrants situated agency and enable them to enhance their conditions. In particular, this research aims to explore how technology can support the “substantive freedoms” of low skilled migrants, that is, the “real opportunities to lead the lives they have reason to value and to enhance the real choices they have” (Sen, 1999, p. 293)

**CASE AND DESIGN STUDIES**

**CASE 1: Forced Labor**

The first case that will be investigated is the role of technology to support the identification of victims of forced labour. Practitioners estimate that there are 21 million people in situations of forced labour, with 68% of these occurring within supply chains of private sector industries (ILO, 2012). These situations are able to exist due to poor regulation and enforcement of labour standards across the labour market. Labour inspections are one of the primary tools used to ensure that standards are maintained. In many cases, authorities who come across potential victims of trafficking or forced labour cannot communicate with them due to language barriers. This study proposes the use of simple mobile technology to allow authorities to help identify potential victims. It investigates the use of culturally relevant information and technologies, to allow workers to self-identify as a victim, and seek help from relevant authorities.

This case and design study will be undertaken in partnership with the Mekong Club, an Association of private sector representatives aimed at fighting forced labour within their industry. An initial pilot study will be undertaken with migrant workers in the fishing industry in Thailand, a sector where there is increased attention from popular media (Hodal, 2016) and UN agencies (ILO, 2013). In these cases, migrant workers are provided with false information about the nature of their employment, and forced to work long hours in extreme conditions, suffering physical intimidation and abuse from the vessel’s captains.

Although different situations of forced labour would require different questions to allow migrant workers to self-identify as a victim, there are some commonalities that would exist across each of the situations. This project seeks to understand the components that are in common, and to develop a framework that would allow different actors to use the technology in the different contexts. Obvious differences would include: the support for different languages; cultural understandings of interface components; the availability of network infrastructure.

There are several outputs that are expected to stem from this research:

- An understanding of communicative ecologies of relevant stakeholders and their use of technology
- Co-designed, developed and evaluated software solution aimed to allow authorities to identify victims of forced labour
- Data on patterns of forced labour, contributing towards monitoring of SDG 8 targets; and Article 40 of New York Declaration
• Impact assessment on the use of technology to support the identification of victims of forced labour
• Policy recommendations on the incorporation of technology into the support of Articles 35 and 40 of the New York Declaration

CASE 2: Recruitment Monitor
One of the first points during the migration cycle where migrants are open to abuse and exploitation is during recruitment. When appropriately regulated, recruitment agencies insure the efficient and equitable functioning of the international job market, by matching available jobs to skilled workers. However, as the UN Special Rapporteur on Human Rights of Migrants (Crépeau, 2015) found, unethical recruiters exploit migrants through: collection of exorbitant fees and linked situations of debt bondage; misinformation about the nature and conditions of contracts; retention of passports and other identity documents; and threats of violence or expulsion from the country when asking to leave abusive employers. In this case, we propose that access to information would allow migrant workers to make informed decisions about the agencies that they would like to work with, the conditions of work that they are entitled to, and where to seek help should the need arise. On top of this, we propose that technology could be used to support the reporting of cases of abuse and exploitation by recruitment agencies in a manner that maintains the chain of custody. It also suggests that these mechanisms could provide more efficient resolution of labour tribunal claims, providing more effective access to complaint resolution mechanisms (ILO Convention 189, Article 17(1)).

This research proposes the creation of a centralized system for reporting cases of abuse or exploitation during recruitment. As part of this case, a study could be undertaken to determine factors that may help MWs to make informed decisions on the track record or recruitment agencies. Interesting metrics that could be derived given a log of claims would be the number of unproven cases that had been reported per individual as well as per agency. These false-positive claims could be used to create rankings of credibility of reporters and agencies. By standardizing metrics across countries of origin and destination, the impact of various interventions could be compared, providing empirical evidence on nations’ progress in achieving SDG 8 of promoting sustained, inclusive and sustainable growth. There are several outputs that are expected to stem from this research:
• An understanding of communicative ecologies of relevant stakeholders and their use of technology.
• Co-designed, developed and evaluated centralized system for: accessing information about the record of recruitment agencies; country-specific migration information; and reporting cases of exploitation by recruitment agencies.
• Impact assessment on the use of technology to support monitoring of recruitment agencies (Article 15 of ILO’s Convention 189, and Article 26(2) of Recommendation 201)
• Policy recommendations on the incorporation of technology into the support of Convention 189 and Recommendation 201.

CASE 3: North Korean Defectors
Due to severely restricted freedom and aggravating economic hardship in the Democratic People’s Republic of Korea (DPRK), more and more North Koreans cross the North Korea-China border in the search for a better life elsewhere. Many of them stay in China, Russia and other Southeast Asian countries (Lankov, 2004) while some manage to enter South Korea which has been transformed into a drastically foreign society since the division of Korea in 1953. As in the case of other migrants, ICTs, particularly mobile phones, play a significant role in assisting their crossings, migration journeys and resettlement in a community. In fact, for those who landed in South Korea, ICTs contribute to a rather dramatic transition as they migrate from the most digitally-oppressed society to one of the most digitally-connected countries in the world.

This research explores how North Korean defectors use mobile phones in the course of their migration trajectory and resettlement experience in South Korea. In particular, the study focuses on female North Korean defectors, who consist of over 70 percents of the total defectors residing in South Korea (Kim, 2014), and analyzes their unique migration experiences as women and mothers.

The first phase of this exploratory study took a qualitative approach by conducting 20 in-depth interviews with female North Korean defectors living in South Korea from August to December 2016. The
The current exploratory study is conducted in collaboration with the Singapore Internet Research Centre of Nanyang Technological University.

There are several outputs that are expected to stem from this research:

- An understanding of North Korean defectors use of technology, and its role in the migration journey and resettlement process.
- Analysis of existing needs of North Korean defectors and comparisons with other forced migrants groups in a new host country to identify common needs and potential areas of technological intervention
- Policy recommendation on using technology for supporting resettlement of migrants and social inclusion.

REFERENCES


TEAM

Hannah Thinyane, Principal Research Fellow
Juhee Kang, Research Fellow
Jenny Ju Bei, Research Assistant

LABS

This project is part of the Digital Peace Lab and the Gender Tech Lab.