



Human-centred design in humanitarian settings: Methodologies for inclusivity

July 2020





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The UN Refugee Agency (UNHCR) works to ensure that all fleeing violence and persecution have the right to seek asylum and find safe refuge. UNHCR is mandated to lead and co-ordinate international action to protect refugees, safeguarding their rights and those of other forcibly displaced persons. UNHCR believes that displaced populations and hosting communities have the right, and the choice, to be included in a connected society, and have access to technology that enables them to build better futures for themselves, their families and the world.

For more information go to: www.unhcr.org/innovation/connectivity-for-refugees/

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Definitions

Accessibility	The characteristics of products, services or environments designed to be inclusive of persons with disabilities.
Assistive technologies	An umbrella term covering the systems and services related to the delivery of assistive products and services and this report includes those based on digital technologies.
Disability	An umbrella term covering impairments, activity limitations, and participation restrictions. An impairment is a problem in body function or structure; an activity limitation is a difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations.
Hearing impaired	A person who reports or is identified as having “a lot of difficulty” hearing.
Person with disabilities	A person who reports or is identified as having acute difficulty (“a lot of difficulty”) or a complete inability (“cannot do at all”) to perform at least one or more of the functional domains of the Washington Group Questions.
Visually impaired	A person who reports or is identified as having “a lot of difficulty” seeing.
Washington Group Questions	A set of questions designed to identify people with disabilities in a survey or a census.

Executive summary

According to the World Health Organisation, it is estimated that 15% of people globally have some form of disability.¹ In humanitarian contexts, instances of injury and disability can increase due to violence, natural disasters, collapse of essential services or lack of medical care. In this context, mobile technologies can present both an opportunity and a barrier. On the one hand, mobile technology can help people with disabilities with easier access to services and to participate more actively in society around them. On the other, as humanitarian support is increasingly delivered through mobile channels, there is a risk this population will be left behind if programming is not designed to take their needs into account.²

To ensure that mobile solutions are designed inclusively in humanitarian contexts, it is important that target users are involved as co-creators of the future *they* want. **A human-centred design approach is one way to ensure that users’ perspectives are fully integrated into programme design.** This approach is also useful for work involving marginalised populations, including refugees and people with disabilities, as these populations tend to have fewer opportunities to voice their experiences and influence decision-making processes. At the same time, they face complex systemic challenges. **To shape solutions that will effectively address these challenges, their perspective is absolutely critical. Human-centred design research methodologies are well suited to the challenge because they bring the perspective of this end user to the forefront.**

This report documents the human-centred design process used in a project conducted in 2020 in Nairobi, Kenya. It includes research tools that can be used in other contexts, as well as the adaptations that were made to research tools to ensure they were inclusive. These are documented in the two page spreads below. [Location Mapping](#), [User Journeys](#), [Communication Mapping](#), [Future Me](#) and [Daily Diaries](#). These tools are followed by the main lessons learned, and recommendations for others who want to implement a similar process.

More research should be conducted to better understand the experiences of people with disabilities in humanitarian contexts. These tools should be further adapted to fill this research gap, continue to grow this evidence base, and improve digital humanitarian programming.

¹ World Health Organisation (2011), [World Report on Disability](#).

² GSMA M4H (September 2019) [Bridging the Mobile Disability Gap in Humanitarian Settings](#).



Introduction

According to the World Health Organisation, it is estimated that 15% of people globally have some form of disability.³ In humanitarian contexts, instances of injury and disability can increase due to violence, natural disasters, collapse of essential services or lack of medical care. People with disabilities are also disproportionately affected by crises and are at risk of falling through the cracks in accessing essential services. They face the additional risks of violence, exploitation, abuse and stigma.⁴

In this context, mobile technologies can present both an opportunity and a barrier. On the one hand, mobile technology presents an opportunity to help people with disabilities to easier access services and participate more actively in society around them. On the other, as humanitarian support is increasingly delivered through mobile channels, there is a risk this population will be left behind if programming is not designed to take their needs into account.⁵

Purpose of report

This report documents the human-centred design process used in a project conducted in 2020 in Nairobi, Kenya. It includes design research tools that can be used. This project used the following human-centred design tools: [Location Mapping](#), [User Journeys](#), [Communication Mapping](#), [Future Me](#) and [Daily Diaries](#). Additionally, the report documents how the research tools were modified to be inclusive, the main lessons learned in

To ensure that mobile solutions are designed inclusively in humanitarian contexts, it is important that target users are involved as co-creators of the future they want. A human-centred design approach is one way to ensure that users' perspectives are fully integrated into programme design. This approach is also useful in work involving marginalised populations, including refugees and people with disabilities as these populations tend to have fewer opportunities to voice their experiences and influence decision-making processes. At the same time, they face complex systemic challenges. To shape solutions that will effectively address these challenges, their perspective is absolutely critical. Human-centred design research methodologies are well suited to the challenge because they bring the perspective of this end user to the forefront.

this project, and recommendations for others who want to implement a similar process. These tools can be used in humanitarian contexts as well as by organisations that work with people with disabilities. Because this project focuses on the development of mobile products and services, it may also be helpful for mobile network operators working to develop new products or make their current offerings more accessible.

³ World Health Organisation (2011), [World Report on Disability](#).
⁴ Humanity and Inclusion (2015), [Disability in Humanitarian contexts](#).
⁵ GSMA M4H (September 2019) [Bridging the Mobile Disability Gap in Humanitarian Settings](#).



Project background

Project Objectives & Target Populations

The goal of this project was to better understand how people living with disabilities in humanitarian contexts use mobile technology, the barriers they face in accessing mobile services, and the opportunities that mobile might present to increase access to basic services in their daily lives.

The target population for this project was urban refugees living with visual or hearing impairments in Nairobi, Kenya. This project also included representatives of the host community, Kenyans, in the activities. The reasons for this, along with further information, can be found in the report, [The digital lives of refugees and Kenyans with disabilities in Nairobi](#).⁶

Human-centred design approach

Human-centred design is a creative approach to problem solving. It merges different methods and schools of thought—participatory, ethnographic, systems thinking and design—and has several key tenants at its core. The first is **co-creation**, a methodology focused on integrating different perspectives and including people who not only inform the design process, but actively engage in it. Second, the tools are designed to **visualise patterns, processes, and ideas** based on the realities of the target population. Most tools used in the process aim to draw out these experiences using a combination of visual and verbal storytelling. Tools

seek to spark conversations to draw out insights and understanding around a given theme. Third, it is rooted in a **practical creative attitude** with an emphasis both on thinking outside the box and testing ideas as soon as possible. Brainstorming ideas, testing them quickly and iterating based on results is key to the process. The result is often workable, practical solutions.

In this project, tools were adapted to suit the target population. These adaptations are documented in the [two page spreads below](#).⁶

Adaptation as part of the process

One of the most important principles of human-centred methodology is openness for adaptation—adaptation often provides an opportunity to be more responsive to the context and the people involved. This can happen on different levels and at different times to the timeline and duration of each research phase, the order of steps in the process, the engagement with participants and partners involved and the activities, as well as the tools used in each phase. All of these aspects should be responsive to the

challenges and opportunities uncovered along the way. In this sense, a human-centred approach is not a prescription of steps to be followed in any context; rather, each project is unique and this methodology enables evolution and adaptation.

For this reason, this project documentation aims to not only share a case study and highlight what went well, it also seeks to underline the challenges and how the process and tools were adapted, as well as the lessons learned along the way.

⁶ For further reading on human-centred design, check out [IDEO.com](#). Their design toolkit is a great resource and they are considered by many as the gold standard within the industry.



Human-centred design research

Research preparation

Iterating research tools with local experts

The research tools used in this project were designed to collect information in an inclusive and fun way, engaging participants to share their perspectives. To ensure the tools were suited to the target population, several rounds of iterations were made over the course of a month in consultation

with organisations that work with refugees and people with disabilities. Throughout the design research activities, researchers worked in tandem with local partners, who helped to ensure that the tools were also culturally-relevant and sensitive to the context where the research took place.

Locating communities through recruitment

To recruit the appropriate research participants, aspects such as gender, age, nationality, access to mobile devices and digital literacy levels were taken into account to ensure diversity of perspectives. As there was not a comprehensive database of refugees living with disabilities in Nairobi, reaching out to the specific profiles proved challenging. It was especially difficult to reach the most marginalised.

Bringing strategic partners on board that already work with these communities and have a local network was crucial to reaching the target

population. The researchers started by reaching out through local organisations and by recruiting sign language interpreters and translators that were members of the local community for extra support with sharing the invitation with the required target group profiles. Extra time was also built in for research activities, so that new participants could be recruited even after research activities began to ensure that all groups were represented.



Design research sessions

Once participants were recruited, several in-person design research sessions were held. Group sessions were divided by type of impairment, one session had people with visual impairments and a separate session was held for people with hearing impairments. Refugees from Somalia and the Democratic Republic of Congo were included in sessions alongside Kenyans, with the appropriate translators for all spoken languages and sign language.

The activities in the design research sessions sparked creative thinking and reflection to better understand the group's context, daily routines, communication channels, access to services, and future aspirations. This project used the following human-centred design tools: [Location Mapping](#), [User Journeys](#), [Communication Mapping](#), [Future Me](#) and [Daily Diaries](#). The original tools, together with the main adaptations that were made in order to be more accessible and inclusive to the participants, are included below.



01

Location Map

Location Mapping is a tool that helps to understand the landscape of users' lives by outlining the main places that users spend time. It helps to give an idea of the patterns and rhythms of users' daily lives by identifying important areas and the interactions that happen there. Location maps can be done either individually or in small groups as a collaborative map. This tool can be more broad, to understand where participants spend time generally, or be focused on specific topics, such as education or health, depending on the project theme.



Location Mapping



Representatives of the target group(s) and/or stakeholder group(s)



90 - 180 minutes



Pen, pencil and/or coloured markers

Additional materials

Objects of different shapes (e.g. block, bottle, can, stone)

Templates prepared with large sheets of paper with markers or tape (with tactile texture)

What

Co-created overview (or map) of the community and places that are important to the target group. Location maps are not intended to be a realistic representation; rather, the focus is on the perception and emotional meaning of places.

Why

To understand which locations play an important role in the lives of the target groups, how spaces are navigated, as well as the dynamics and interactions that happen within these spaces.

How

1. Select different themes that can be mapped by finding locations that are linked to it. These themes will be dependent on your design challenge. For instance: learning/information, work/income, sustainability, health, etc.
2. Start representing the different locations — drawing, writing or using objects and shapes. You can place the most important location in the middle (this can also be the house of a participant) and add relevant locations around it. The area you are mapping can be as big as a facility, a neighborhood, a city or even the country.
3. Identify the different topics and the places and describe more about the locations. By giving them a name and adding detailed information about it.

Adaptations for facilitating a session with participants with disabilities

1 One theme at a time

Facilitate the activity in different rounds, each time focusing on one theme. For example:

- The first round focuses on the participants house — who they live with, they favorite and less favorite places at home;
- The second round, places they can access by themselves — how they go, who they meet, how they feel;

2 Exploring the topic as a group

Before starting the individual mapping, explore the topic with the entire group, discussing it and registering in a mindmap. This will serve as a brainstorm for the following steps, allowing the participants to focus on one of the topics from their location map and to dive deeper.

2 Restrictions make it simpler

Instead of starting from a blank piece of paper, a template can create restrictions that simplify the explanation and execution of the activity, with a clear starting point.

Creating the template as a texture makes it accessible for participants with visual impairments to follow the instructions independently.



2 Building the map

Facilitator asks a set of questions to the whole group. Individually, participants create a representation of their answer using the creative materials. Each type of place is represented by one shape (e.g. block, bottle, can, stone). Each participant uses the object and adds clay and/or other elements to represent their characteristics.

Recommendations for inclusivity when using this tool

Adding one-on-one check-ins

After the group discussion, the facilitator asked participants if they had any questions or needed additional clarifications in short one-on-one talks. This was helpful because it was more private and participants felt more comfortable to share.

Exploring formats that are most comfortable

In cases where the facilitator noticed that participants did not feel comfortable with doing the activity with clay, the facilitator offered more familiar alternatives to participants, such as talking or role playing the situations/locations.

Asking open-ended questions

To help trigger discussion and creative thinking when participants did not take much time on the activity, the facilitator asked open-ended questions such as what an item on their map represented, and followed up with questions such as: “Why is that place important?” and “How do you feel when you are in that place?” This helped participants not only to understand the activity better but to increase their engagement.

Keeping activity guidelines accessible

To keep everyone on the same page and save time on repeating activity instructions, the facilitator added these to a slide presentation, translated to the languages that were present in the room. This serves as a guide for the facilitator and for the translators/interpreters. In the case of participants that can read, they will be able to read and follow the questions as well.

TOP TIPS

👁️ Visually impaired

- Using tactile materials such as clay and objects of different shapes (such as cups, little characters, blocks, etc.) rather than drawing.
- Using “3D-tape” to create a grid which the participants could feel to identify where they are on the map.

👂 Hearing impaired

- Using pre-printed icons and text to produce their maps and add characteristics to their representations for easier communication.
- The sign language translations took longer than expected in the calculation of time in the agenda. It was important to keep this in mind and adapt the explanations and activities to account for the extra time needed.



In the Location Mapping activity for this research, the topic was left relatively open. Participants used objects or varied shapes to represent the locations that were and were not accessible to them. To understand how and how often they moved around their communities, their independence and accessibility to places, participants were asked to build individual location maps, representing their perspective.

For this session, a grid was prepared on a piece of paper for the participants and the map was created in concentric squares for different types of locations. Participants were asked to fill the inner square about their home and neighbourhood, the second about the places they go, the third about places they do not have adequate access to, and the outer square about places they do not go at all.



Participants with visual impairments creating shapes with clay to build the Location Map while the facilitator asked further questions and took notes of the stories that were being shared.

This tool led to insights related not only about the physical spaces where participants spent time but also, more importantly, to more subjective aspects of their experiences such as inclusivity, mobility, dependency levels, sense of belonging and emotional perception of their environment.

Example of data collected from a Kenyan woman with hearing impairments using this tool



Inner Square: Home

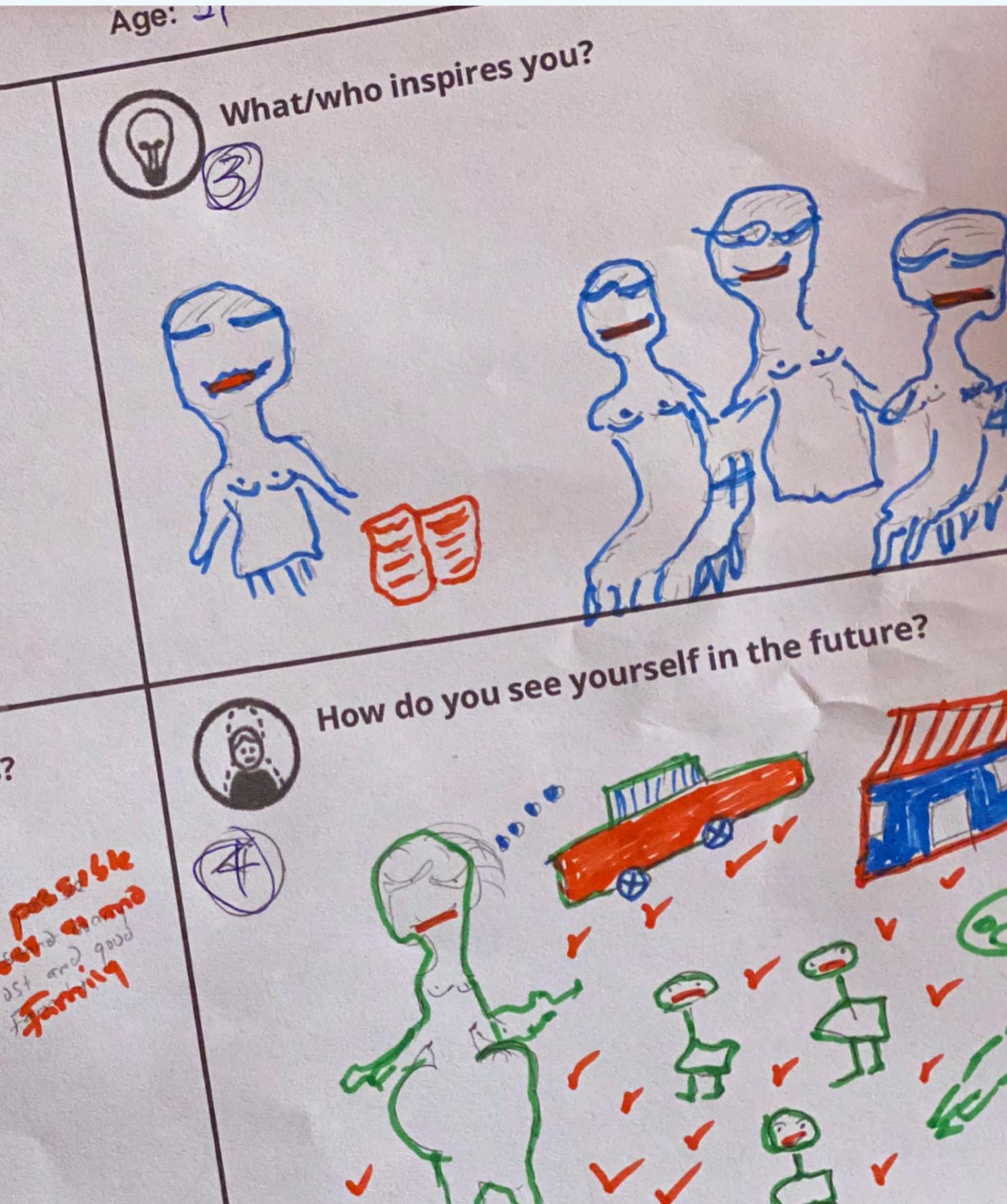
Place	Description
Home	It is my sanctuary. I love it! What is your favourite place in your home? It is the kitchen. That is my domain. I am in charge of everything there. What is the least favourite place in your home? I like all of my house. I appreciate it.

Second Square: Close to home

Place	Description
Shopping Centre	I take care of all grocery shopping. I live with my husband. I enjoy taking care of him. We have been married 20 years and have a daughter.
Bank	I have a business and need to go to the bank often. I use my bank because of the cheap rates and proximity. I have communication challenges with the staff.
Hospital	I go here when I need medical care. Hospitals give me the most communication frustration. I hate not knowing what they are doing to me.

Third Square: Far from home

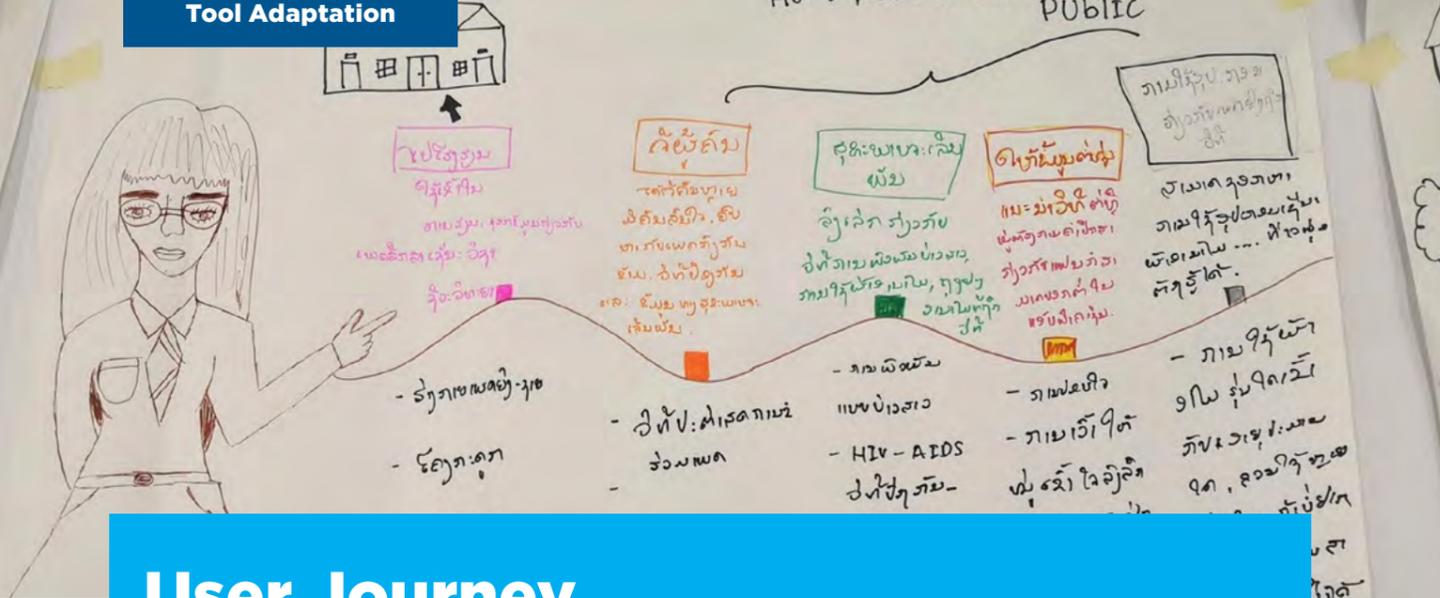
Place	Description
Church	I am a devout Christian. I go to church every Sunday. This church is far away, but I feel nourished there.



02

User Journey

User Journeys create a structured way to reflect and document the different steps taken in accessing a set of services, including the providers, people, locations and feelings involved. In this project, the User Journey tool was used to explore service accessibility.



User Journey



Representatives of the target group(s) and/or stakeholder group(s)



90 - 180 minutes



Pen, pencil and/or coloured markers

Additional materials

Objects of different shapes (e.g. block, bottle, can, stone)

Templates prepared with large sheets of paper with markers or tape (with tactile texture)

What

A tool that visualises the journey of your customer's experience with your solution, including the people and activities involved. It describes how a customer learns about your business, purchases your product or service and uses it.

This tool can be valuable in different project phases. In the Research Phase, it is a participatory tool to further understand situations from the target's perspective. In the Analysis and Ideation phases, to visualise the research data and highlight 'pain points' — most challenging moments — to focus and generate solutions. In the Making and Testing Phase, to make ideas tangible, gather more specific feedback and iterate the concept.

Why

Looking at the experience through the perspective of your target group give insights about their needs, rather than around internal processes or premade plans.

How

1. On one corner of a large sheet (A3 or a flip chart sheet), write down the current situation of a person that represents your target group(s). The current situation can describe their living situation, educational background, dreams, means of income, etc.
2. In the opposite corner, describe the expected end result.
3. Starting from their current situation, add all of the steps your customer will take to arrive at the expected end result. Include the different stakeholders involved throughout their journey.

Note: Make the steps very practical by describing the activity and including a visual (e.g. a drawing or sketch). Avoid saying things like: "The customer learns about our product." Rather, say for example, "The customer learns about our product through a newspaper advertisement."

Adaptations for facilitating a session with participants with disabilities

Focus on project objectives

Remind the participants about the design (or research) questions and the project objectives. For instance: creating a mobile solution. It is good to keep this in mind and share where they are already using mobile in their journeys, or places mobile tech solutions could aid in the journey.

Exploring the topic as a group

Before starting the individual journey, explore the topic with the entire group, discussing it and registering in a mindmap. This will serve as a brainstorm for the following steps, allowing the participants to choose the most important moments/situations to represent.

Restrictions make it simpler

Instead of starting from a blank piece of paper, a template can create restrictions that simplify the explanation and execution of the activity.

The journey template becomes a storyboard grid in which each step is represented in one square. Creating the template as a texture make it accessible for participants with visual impairments.



Capture reality and wishes

Instead of creating one journey from the current situation toward a possible solution, participants were given time to create two journeys, one on current frustrations and one illustrating potential solutions. This way they could better reflect on details of the current reality and then, share their ideas they had to make the experience better.

Recommendations for inclusivity when using this tool

Including additional perspectives

The autonomy and mobility of people living with disabilities can be limited and it is likely that caregivers, friends or family members come to the sessions with them. Take benefit of having them in the room and invite them to participate and create their own user journeys. In addition to having the perspective of an important actor in the target population's daily life, this can be useful to avoid their intervention in the input from the people living with disabilities. It also leads to a better understanding of the project and activities, increasing the potential of having them as allies in the process. They can motivate the participants to come to the sessions and complete further activities at home.

Adding one-on-one check-ins

After the group discussion, the facilitator asked participants if they had any questions or needed additional clarifications in short one-on-one talks. This was helpful because it was more private and participants felt more comfortable sharing. In cases where the facilitator noticed that participants did not feel comfortable completing the activity with clay, the facilitator offered more familiar alternatives to participants, such as talking or role playing the situations/locations.

Keeping activity guidelines accessible

To keep everyone on the same page and save time on repeating activity instructions, the facilitator added these to a slide presentation, translated to the languages that were present in the room. This serves as a guide for the facilitator and for the translators/interpreters. In the case of participants that can read, they will be able to read and follow the questions as well.

TOP TIPS

- Visually impaired**
 - Using tactile materials such as clay and objects of different shapes (such as cups, little characters, blocks, etc.) rather than drawing can be helpful.
 - Creating a tactile template made with masking tape allows participants to independently build their stories by placing objects without assistance.
- Hearing impaired**
 - Use pre-printed icons and text for participants to create their journeys and add characteristics to their representations.
 - The sign language translations took longer than expected in the calculation of time in the agenda. It was important to keep this in mind and adapt the explanations and activities to account for the extra time needed.



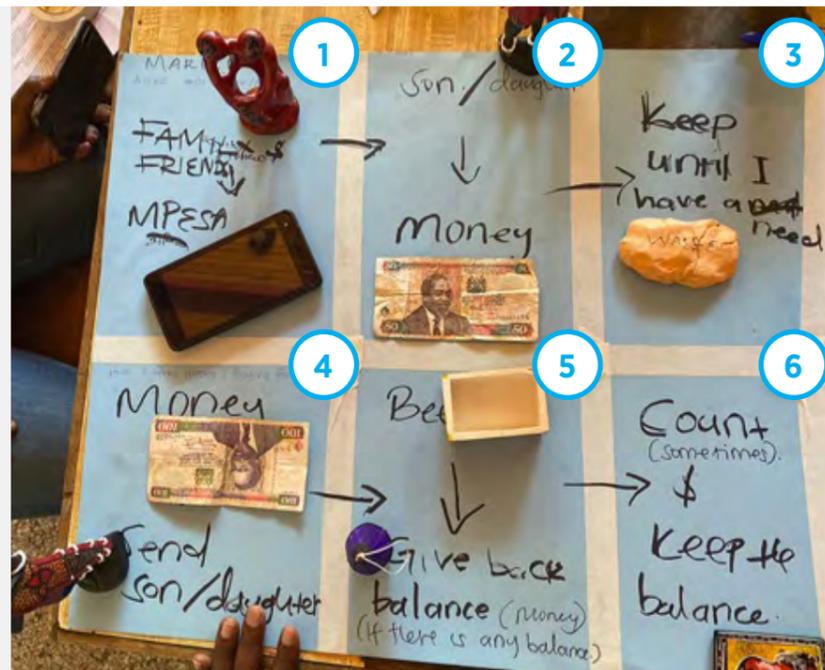
Two thematic sessions were held to develop different user journeys: the first focused on mapping participants' work, income and financial journeys; the second focused on mapping their experiences related to their health and access to other basic needs. For each theme, participants were asked to create a journey that represented two scenarios: their reality and their preferred version of reality, or

how their service journey could be improved. This comparison allowed participants to share their own ideas on how to resolve pain points.

For both thematic sessions, the role of mobile phones and mobile services were explored within the user journeys, giving insights into when mobile technology acted as an enabler or a barrier.



Example of data collected from a Congolese man with visual impairments using this tool to explore his journey relating to financial management.



1. I get money from family and friends (cash or M-Pesa)

I give my son/daughter the phone to read the message when one comes. I don't have the skill or ability to listen to messages.

2. I give my son/daughter the phone to go to the M-Pesa agent and get the money.

I personally do not go to the M-Pesa agent because of my blindness. I cannot see, therefore I cannot follow the required process. I do not see any reason to therefore go and I let my children handle the transaction for me.

3. My children withdraw and bring back the money to me.

I keep the money until it is needed.

4. I send my son/daughter

After we decide what is needed, I give money to my children to go shopping.

5. Make purchase

After they make purchases, they bring the change back to me.

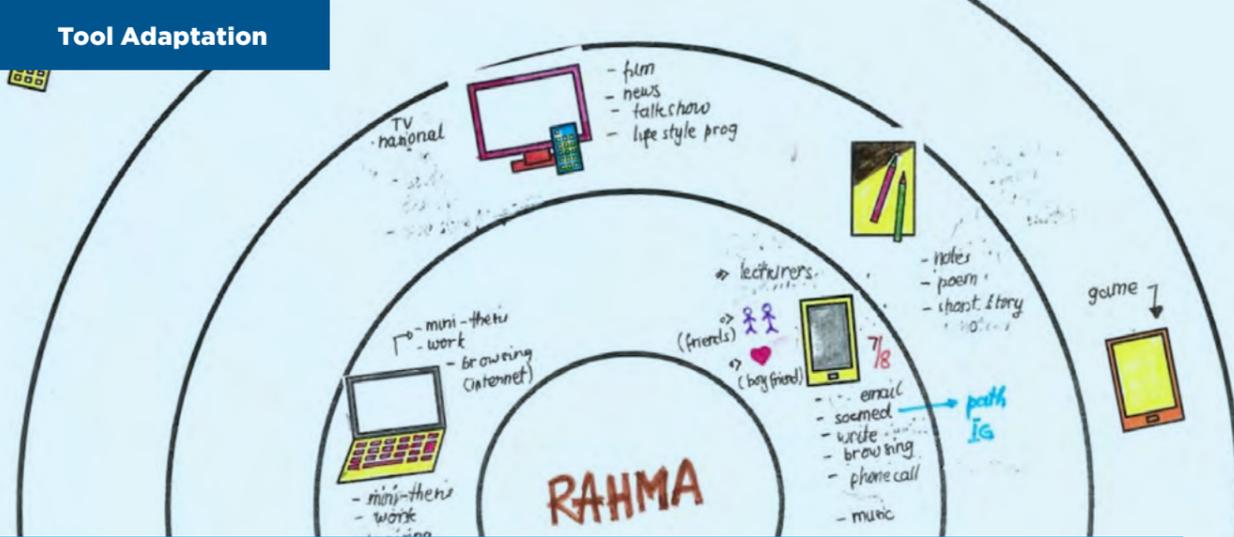
6. Count & keep balance

I sometimes count the money. I don't have a good understanding of the currency because I am blind. I have to trust them.

03

Communication Map

The Communication Map is a visual map of the communication channels and tools that are used by the research participant. The map includes information on which communication channels are used, the frequency of use, with whom they are used, and the types of information that is shared.



Communication Map



Project team, representatives of the target group(s) and/or stakeholder group(s)

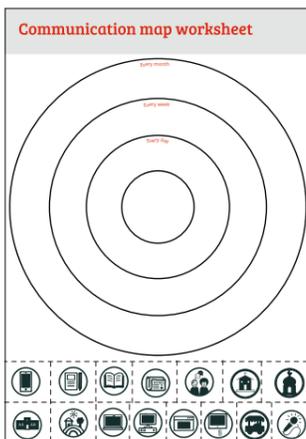


30 - 45 minutes



- Worksheet
- Scissors
- Pen

This workshop can be printed for participants to fill in using the icons below:



[Download worksheet](#)

What

A visual map of the communication channels and tools that are used by the participant. The map includes information on which channels are used, the frequency of use, with whom they are used and the types of information that is shared.

Why

This tool gives valuable information on the communication channels that you can use to reach the target group, and it can help you explore new ways to integrate these channels into the proposed solutions.

How

1. Participants write their name and age and draw themselves in the inner circle.
2. Participants cut out the icons at the bottom of the worksheet and place them in the circles according to how often they use them. The inner circle is more frequent and the edges of the worksheet mean they do not use them at all.
3. Make your own icons: draw any other communication tools that participants use that are not on the worksheet, and ask them to add the new icons to their maps.
4. Ask the following questions about the most used communication channels:
 - When do you use this channel?
 - What do you use this channel for?
 - Who do you speak to using this channel?
 - What do you access using this channel?
 - What topics do you speak about using this channel?
5. When the communication map is finished, review it together with the participants and ask any additional questions.

Adaptations for facilitating a session with participants with disabilities

Focus on project objectives

Remind the participants about the design (or research) questions and the project objectives. For instance: creating a mobile solution. It is good to keep this in mind and spend more time focusing on the use of mobile services and on the challenges they have while using mobile services and devices. Additional icons were set up to represent different aspects related to mobile phones and services, such as SIM card, voice calls, SMS, internet, mobile money, social media, games, information, recharging.



Additional materials

- Objects of different shapes (e.g. block, bottle, can, stone)
- Templates prepared with large sheets of paper with markers or tape (with tactile texture)
- Printed and cut icons (including icons related to mobile phones and mobile services as well as related to the humanitarian context – community leaders, protection officers, service providers, etc.)

Exploring the topic as a group

After splitting the group of visually-impaired participants into 2 smaller groups, the facilitator asked for each channel how often they are used. Participants would answer with their hands while the facilitator would place the icons in the template.

Recommendations for inclusivity when using this tool

Including additional perspectives

The autonomy and mobility of people living with disabilities can be limited and it is possible that caregivers, friends or family members will come to the sessions with them. Take the benefit of having them in the room and invite them to participate and create their own communication maps. In addition to having the perspective of an important actor in the target population's daily life, this can be useful to avoid their intervention in the input from the people living with disabilities. It also can lead to a better understanding of the project and activities, increasing the potential of having them as allies in the process. They can motivate the participants to come to the sessions and complete further activities at home.

Adding one-on-one check-ins

After the group discussion, the facilitator asked participants if they had any questions or needed additional clarifications in short one-on-one talks. This was helpful because it was more private and participants felt more comfortable to share. In cases where the facilitator noticed that participants did not feel comfortable completing the activity with clay, the facilitator offered more familiar alternatives to participants, such as talking or role playing the situations/locations.

Keeping activity guidelines accessible

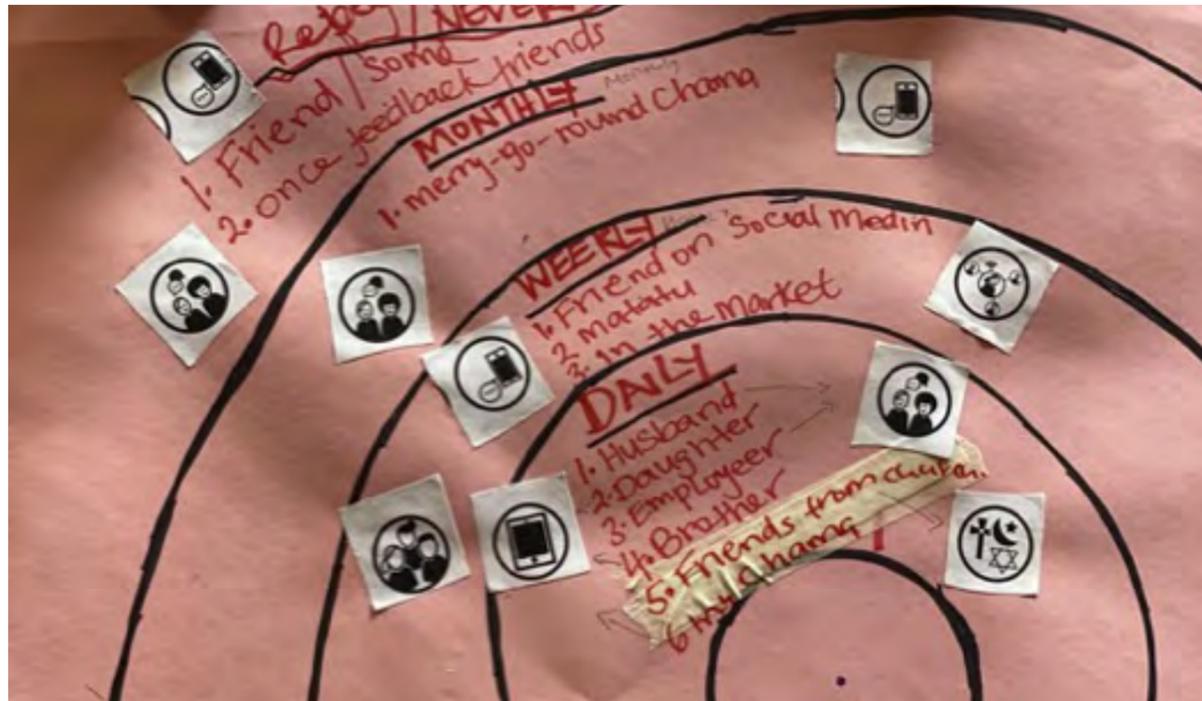
To keep everyone on the same page and save time on repeating activity instructions, the facilitator added guidelines to a slide presentation, translated to the languages that were present in the room. This serves as a guide for the facilitator and for the translators/interpreters. If participants can read, they will be able to read and follow the questions as well.

TOP TIPS

- Visually impaired**
 - Using tactile materials such as clay and objects of different shapes (such as cups, little characters, blocks, etc.) rather than drawing can be helpful.
 - Creating a tactile template made with masking tape allows participants to independently build their stories by placing objects without assistance.
- Hearing impaired**
 - Participants used pre-printed and cut icons and text to produce their maps and add characteristics to their representations.
 - The sign language translations took longer than expected in the calculation of time in the agenda. It was important to keep this in mind and adapt the explanations and activities to account for the extra time needed.



In this research, participants mapped the different communication channels—for example smartphones or radio—that they frequently used. If channels were mentioned that weren't explicitly included in the template, these were added.



Icons being placed and explained in the Communication Map template by a Kenyan woman with hearing impairments. In the central circle, the most used channels and tools; in the bigger circle, the ones used less, every month.

Daily	Weekly	Monthly	Rarely/Never
1. Husband	1. Friends on social media	1. Merry-go-round Chama	1. Some friends
2. Daughter	2. Matatu [minibus]		
3. Employer	3. In the market		
4. Brother			
5. Friends from church			
6. My Chama			

The Communication Map tool helped researchers to understand participants' relation with mobile phones, their digital literacy levels, as well as other communication channels and sources of information that were and were not present in their daily lives.

04

Future Me

The Future Me tool is a way for participants to reflect on how they imagine themselves in the future, so researchers can understand participants' goals and ambitions, as well as the resources they might need to realise these goals.



Future Me



Project team, representatives of the target group(s) and/or stakeholder group(s)

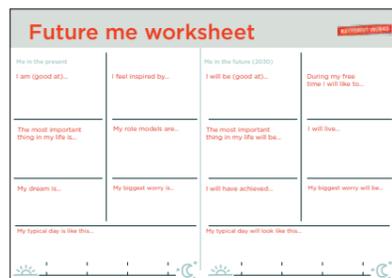


30 - 45 minutes



Worksheet and pen

This workshop can be printed for participants to fill in:



[Download worksheet](#)

Additional materials

Objects of different shapes (e.g. block, bottle, can, stone).

What

The Future Me tool is a way for participants to reflect on how they imagine themselves in the future, in order for researchers to understand participants' goals and ambitions, as well as the people and tools they might need to realise their future visions of themselves.

Why

This tool highlights the intrinsic motivations of your target group. It helps to understand how they look at their current lives and their futures, so that you are better equipped to anticipate their behaviour.

How

1. Participants fill in the worksheet, reflecting on their present realities and future ambitions.
2. While participants complete the worksheets, ask clarifying questions to get detailed information and clear explanations of the answers.
3. When the worksheet is filled out, review it together with the participant and ask any additional questions you had prepared.

Adaptations for facilitating a session with participants with disabilities

Tactile introduction

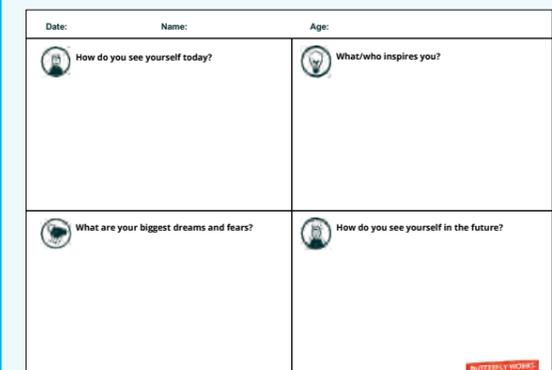
- 1 The tool was used at the beginning of the sessions as a way for the participants to get to know each other better. The group of participants with visual impairments made two representations choosing a base object and/or clay to add characteristics: one of themselves in the present and one about how they imagine themselves in the future. While introducing themselves, participants could pass the objects allowing everyone in the room to feel the shapes and textures that they chose to represent themselves.

TOP TIPS

- Visually impaired**
 - Participants use clay and objects of different shapes (such as cups, little characters, blocks, etc.) to produce their representations of themselves in the present and how they imagined themselves in the future.

Adapted worksheet

A simplified worksheet was developed so that participants with hearing impairments would need to fill in less aspects, simplifying the explanations and allowing space to add more details and drawings, exploring each question in-depth.



[Download worksheet](#)



In this research, participants were asked to reflect on their lives today and imagine themselves in the future. They used the Future Me tool to indicate what their future daily routines will look like, with whom they will interact, what their family and social lives will be.

Below is a sample of data collected from the Future Me activity made a Kenyan woman with hearing impairments. After filling in the template, the participants presented both their present and future profile. The facilitator asked questions to gather more details and reasons behind the answers.



How do you see yourself today?

I feel beautiful, happy and excited.



What/who inspires you?

I am inspired by a business training group for women that I'm involved in. They give business training on how to do business as a woman. These types of business workshops and trainings inspire me. My friends also inspire me.



What are your biggest dreams and fears?

I dream of having a handsome husband, owning a huge clothing store, having my own land, and having a good and loving family.

I want to be the best business woman and a successful one.



05

Daily Diaries

The Daily Diary is a tool that captures users' daily routines, rhythms, feelings and common interactions. This helps researchers to better contextualised understanding of the target group.

Daily Diary



Project team, representatives of the target group(s) and/or stakeholder group(s)

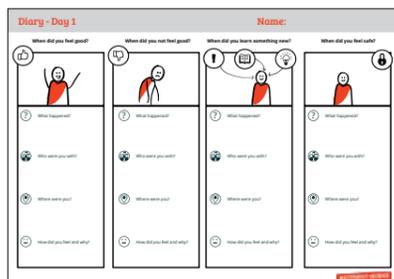


**7 days
15 minutes per day**



- **Pen, pencil and/or coloured markers**
- **Worksheet**

This worksheet can be adapted with different questions and printed for participants to fill in, once per day:



[Download worksheet](#)

What

A daily reflection of the moments, feelings and interactions you had that day.

Why

It helps to understand the target group and how they relate to the people around them. It gives an overview of what the social interactions look like for your target group and how they fit into the social fabric.

How

1. Participants reflect on their day and fill in the worksheet everyday answering the questions. For example:
 - When did you feel heard or understood?
 - When did you feel good?
 - When did not feel good?
 - When did you learn something new?
 - When did you feel safe?
2. For each question the participant describes the situation, who was with her/him, where she/he was, her/his feelings and why she/he felt that way. Additionally, they can make a drawing of the situation.

Adaptations for facilitating a session with participants with disabilities

Discuss options

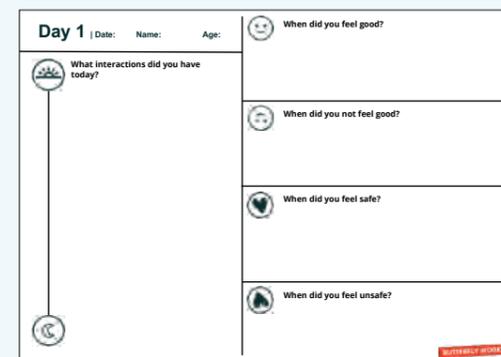
After explaining the activity, facilitators introduced different options for participants to share the results: receiving a call from the facilitator / sign language interpreter, recording the answer on your phone, send (voice) message, filling in the worksheet (with or without support from caregiver), receive a visit from the facilitator / sign language interpreter. This way participants could choose the most comfortable way to share their daily diaries, as well as the best moments in the day to be visited or contacted.

Learning from practice

After choosing their preferred way to share information daily, participants were invited to test out how this format would be. The ones that chose to complete the worksheet would reflect on their previous day and fill in the answers. Others would receive Whatsapp messages and answer them. Or engage in a Whatsapp video call using sign language, or a voice call. This way any aspect of the activity could be further clarified. They could also try out different methods before making their final decision.

Adapted worksheet

A simplified worksheet was developed so participants would first reflect and document the activities of their day and then highlight the moments where they felt good, not good, safe and unsafe.



[Download worksheet](#)

TOP TIPS



Visually impaired

- Options for recording diaries with the visually impaired can include:
- Calling to explain from the researcher
 - Recording the answer on researcher's phone/ sending voice message
 - Using an audio recorder to record answers
 - Visiting the participant at their home to avoid mobility challenges
 - Having support from caregiver / family member / friend



Hearing impaired

- Options for recording diaries with the hearing impaired can include:
- Answering the questions of the templates with text and/or drawing
 - Answering the questions via Whatsapp
 - Taking pictures and explaining the context
 - Visiting the participant at their home to avoid mobility challenges
 - Having support from caregiver / family member / friend



In this project, the Daily Diary tool was used to understand the daily routine of the target population, including how they felt throughout the day and when they felt safe or unsafe. Participants could choose how to record these daily experiences by using the printed template, WhatsApp texts or voice messages, phone calls, video calls or in-person meetings with the researchers.

At the participants' request, researchers focused on daily phone calls with participants with visual impairments to record their daily experiences and printed templates for participants with hearing impairments. These were then translated by the interpreters because the hearing-impaired participants' descriptions were often shorter sentences, metaphors or descriptions of mental images based on how they would sign their responses.



Day 1

12th March 2020



What interactions did you have today?

- I woke up unwell today.
- I took medicine and juice around 10 a.m.
- I was alone all day.
- I wanted to take a wash.
- I could not because no one was there to help me.
- My brother called me later.
- I felt better talking to him.



When did you feel good?

- When my brother called me.
- When I took some medicine.



When did you not feel good?

- I was alone all day. I am blind and it does not feel good when you cannot even take a wash and there is no one to help you.



When did you feel safe?

- When my brother called me and we talked about happier times when we were young.



When did you feel unsafe?

- When I was in pain and alone.



Example of the template and data collected from a Congolese woman with visual impairments with the Daily Diary tool. Participants would share the information over 7 days, giving insight on their daily routine and weekly activities.





After the research sessions

Capturing Results

After each design research session, the project team met remotely to discuss the main insights of the day. In these meetings, the facilitator updated the project team on both a content and methodology level. Together, the project team discussed adaptations for the challenges faced, including both logistical and methodological adjustments. Having these

moments made it possible to continuously iterate the process by carving out intentional time to respond to outcomes of each session. Additionally, it allowed the project team to capture main topics and stories shared by the participants right after they happened, avoiding loss of details and inconsistencies in the documentation process.

Feedback sessions and reporting mechanisms

The researchers supported participants in communicating their needs by creating 'reporting mechanisms', a trusted community member was appointed in the workshop as a 'focal point' who participants could confide in. This focal point directed participants and helped to follow up on cases outside of the scope of the session.

Additionally, feedback moments at the end of each session allowed for participants to shape future

sessions. Through these moments, for example, researchers learned that some explanations were too fast and that the time to arrive at the workshop location was challenging because of rush hour. Researchers also learned that target populations were excited to be part of this process and were willing to be engaged in the following phases of the project or similar processes in the future.

Visualising the data

The tools used in the design research sessions generated insights into the daily realities of the target populations as well as how they imagined their future lives. Results were coded and patterns were noted, much in the same way as traditional qualitative research. However, these results were then additionally used to create a series of Personas—fictional characters that took into account participants' daily routines, expectations, fears and dreams representing the different user types.

The user journeys from the design research were also visualised to represent the trajectories of different target populations and their needs relating to basic needs access and engagement with assistive mobile tech. Transforming individual outputs from the design research into visualisations such as Personas and User Journeys helped to highlight key and cross-cutting experiences that should be considered when developing a user-centred assistive tech solution.



Example of a persona developed to represent main characteristics from the target population. This persona merges the data collected from the different activities into a profile making results tangible to better understand different aspects of the target population.

Persona

Samuel, 36 - Kenyan

“ I love working on my vegetable farm. It feels so good to be outside and work with my hands! And at least I can help a bit with the family bills. I don't want to be a burden to my family. ”



Samuel lives with his wife and son. He plants vegetables in his compound. Sometimes he and his family sell some of his crops.

His brother gives him money every month through M-Pesa. Samuel needs his son's support to manage his finances, but he makes the decisions on how to spend or save money in the household.

Samuel can go around his house and to his neighbour's by himself but that is where his mobility ends.

He feels a lot of pain in his eyes but he can't access the right support to help him.

He can make voice calls by himself but needs his son's assistance to use WhatsApp. He would like to know how to use his phone better and has heard of a functionality that could help him, but he does not know how it works. Samuel would like to know more about financial services and how to better manage his money.



● I wake up, wash myself and have breakfast with my wife and son. We pray and thank God for all that we have.

● Sometimes I spend the day taking care of my vegetables outside, but today there is not much to do. I finish early.

● I go visit my neighbour. He is old and likes to have someone to talk to. Sometimes his son passes by and gives me a little money to help my family. He knows our hardships.

● I hear my phone. It is an SMS. If it is money, it needs to be collected soon. I cannot ask for help with these things from my neighbour, so I wait for my son to come home.

● We have dinner and tell stories together.

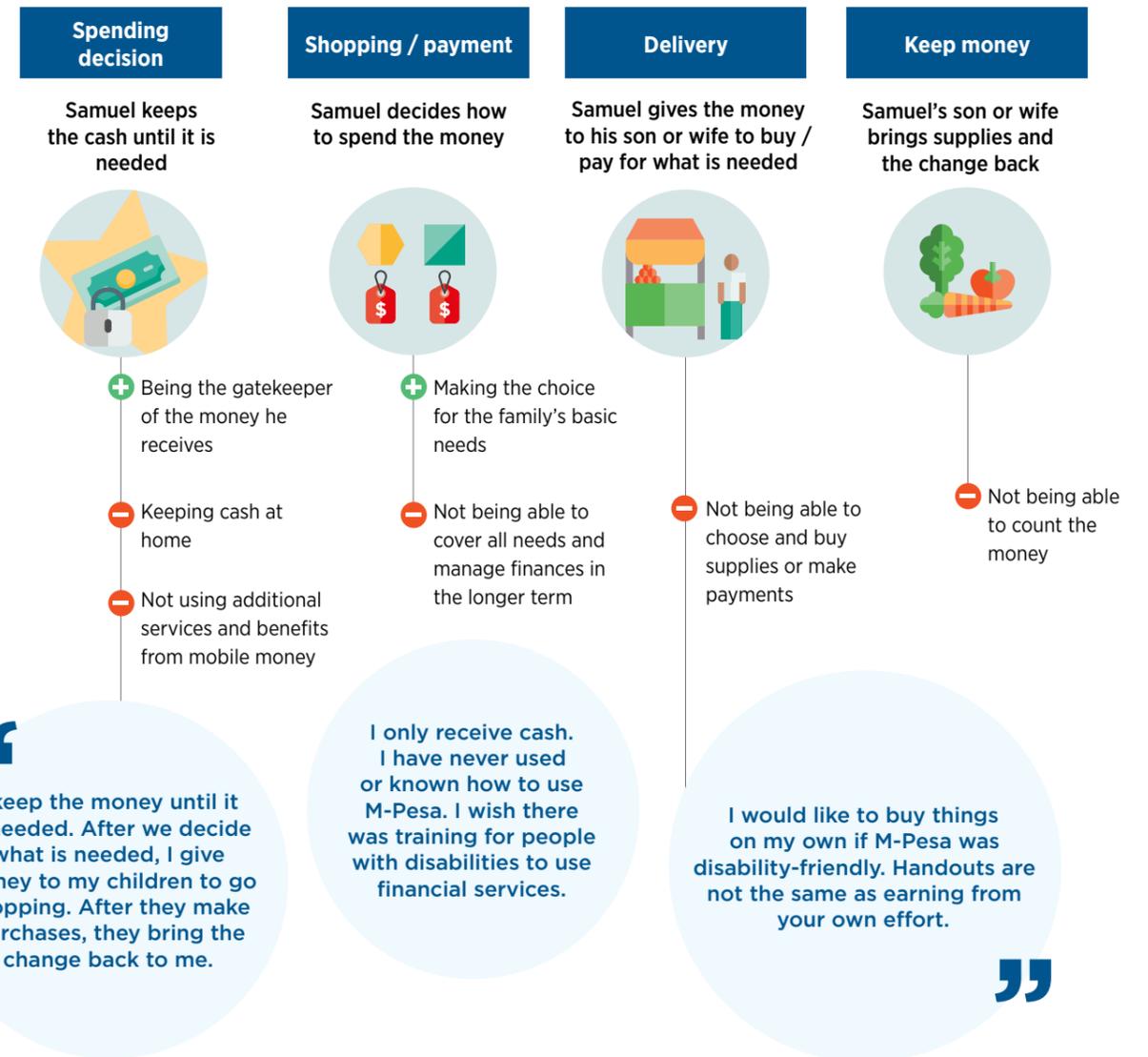
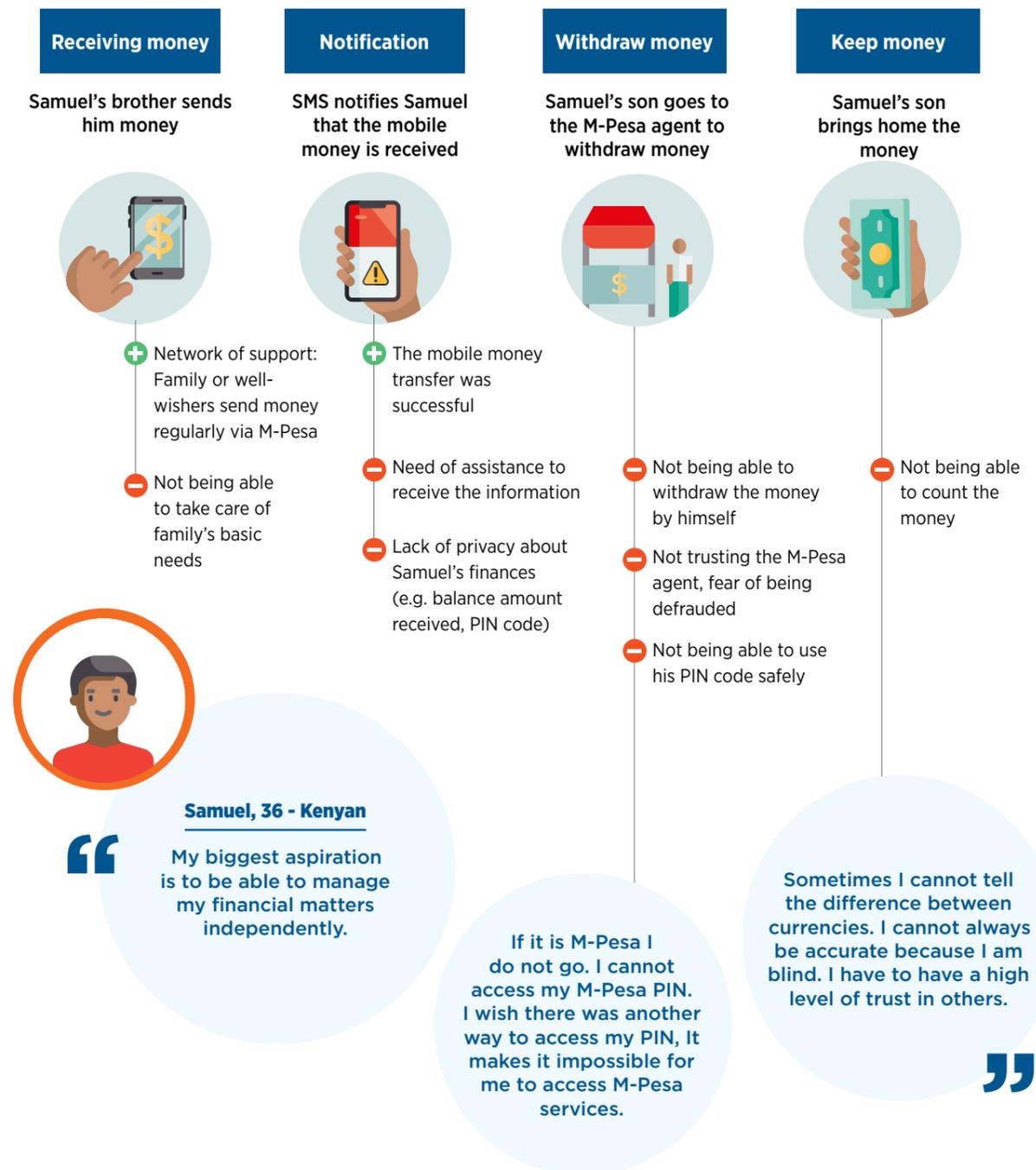




User Journey



Example of the financial User Journey of one of the developed Personas. This journey merges different experiences of users collected during the research into a step-by-step path that represents how some people from the target population manage receiving and spending money, including the challenges they face, who supports them and how they feel in each moment.



Reporting back

In any research, it's important to consider research participants during dissemination. Too often in humanitarian contexts, research participants are forgotten after data is collected and budgets are not built in to allow for researchers to feed results back. It is important, especially in a methodology that aims to be inclusive, to plan for this step from the beginning, thinking through what types of

results outputs would be interesting and accessible to participants as well as how to reach them after research activities have ended.

In this case, researchers based in Kenya have remained in contact with research participants through Whatsapp and voice calls. Results are currently being put into a format that can be shared back with participants.



Lessons learned: making human- centred design methods more inclusive

Human-centred design can be an inclusive methodology as it encourages empathy as a research tool, allowing researchers to put themselves in the shoes of the end user. This is especially important when working with marginalised populations facing complex systematic challenges. Only through a deep contextual understanding of their lived experience can we begin to work together to co-create solutions.

To make these methods work in practice, there are several key lessons that emerged through this research. These lessons were learned specifically through engaging with the target audience in this research, however the lessons are more broadly applicable to working with marginalised populations.

1. Getting the right people in the room and building meaningful connections

The most important aspect of human-centred design is meaningful engagement with the target population. In the context of this project, initially reaching the right target population was identified as a challenge before the research began, especially the most marginalised and disconnected from society. It was therefore important not to underestimate the amount of time and effort that is needed for the recruitment of the most relevant profiles of the target population. Researchers in this case ended up being successful in recruiting refugees with hearing impairments through the sign language translators, who happened to be well connected to the community.

Once the right participants are in the room, it can also be a challenge to create an environment where participants feel comfortable and open to sharing their perspectives. In some cases, **having caregivers present can make people more comfortable and open — however, it also can present a risk of censorship or reduced feelings of agency.** Involving trusted community members as translators can have a similar effect. In this project, the translators and sign language interpreters not only made participants more at ease — helping to bring trust to the room. **It is important to be aware of these potential social dynamics.**

2. Give time, take time and stay agile

Being flexible and agile is key when conducting human-centred design research. In this project, sessions were organised with a 'plan B' in case of unexpected changes. Extra time was also built in to connect, follow-up with, and report back findings to research participants after the activities.

While building relationships with target populations, it also helped that researchers maintained relationships after and in-between the sessions. The researchers did not only focus on their own objectives; rather, attention was given to make

the process more give-and-take with the target populations. For example, participants often wanted to voice their hardships more generally, as they do not always have the opportunity to do so. The researchers took the time to listen and, when possible, to find links with the objectives or activities of the session. **Working with humanitarian organisations, who are directly in a position to support, address and refer issues that come up that may require immediate attention, is advisable.**



3. Manage participant expectations

The project's intention should be communicated as soon as the target population is identified.

In the context of this project, it was important to manage expectations when communicating the project with the target population and wider community. Researchers were aware that the name of their organisations, whether private sector or humanitarian, would likely raise the expectations of participants and that research interventions within humanitarian contexts can be misinterpreted as humanitarian support. Invitations to the activities were not focused on the outcomes and

the implementation of the concepts generated through the research. Rather, they emphasised the opportunity to elevate the voices of people living with disabilities and refugees and to be involved in the co-creation of mobile solutions.

“This is the first time anyone has asked for my opinion. I’m over 50 and nobody has ever asked me what I think.”

– Research Participant

4. Create safe and accessible spaces

Creating a space that is accessible and feels safe for everyone participating in essential and meaningful and effective participation.

When working with marginalised populations this can be challenging. Chances are that human-centred design activities will be new to participants. At first, the idea of drawing, role playing, or just being creative can present a big barrier to participation. It was important for researchers of this project to ensure that participants felt safe to ask questions, and that explanations were clear. Participants were given time to get comfortable with the tools.

Establishing a safe space helps to enable personal perspectives to be shared. Several aspects should be taken into account, including **physical accessibility** (e.g. distance from their home and stairs), **representation** (e.g. who is in the room and how well participants know them) and **comprehensibility** (e.g. how much participants know or understand of what is happening). The location of the workshop is also important, especially for communities with physical disabilities.

A space that is hard-to-reach or has facilities that are not suitable to the participants will hinder their ability to join and/or participate.

In this project, **the time of the session** also played a big role in accessibility. Sessions for people with visual impairments were scheduled in the morning, however, the morning rush hour in Nairobi made it challenging to navigate through the city to the workshop space. It was important to allow time for the participants to arrive at the session venue safely, which meant that participants tended to arrive over a longer time period.

A note on language

A key part of accessibility is the ability of research participants to express themselves. Being aware before participants arrive of the language requirements, both of spoken languages and of sign languages, is key. In this project, extra time was built in for sign language translation, as this often took longer than spoken language translation.



5. Practice empathetic listening

The tools used in a human-centred design process offer a framework to trigger deeper conversation about certain topics.

These conversations are more important than the completion of specific activities. Through design research, researchers engage in empathetic listening, to uncover stories that bring habits, beliefs, dreams, and feelings to the surface. Through empathetic listening, researchers ensured that interviewees did not remain on the surface of the topics discussed or offered answers that they thought the interviewer was looking for.

The tools provided here can be used as conversation starters, or storytelling frames. They can give participants creative ways to reflect and express their experiences as stories and to engage in conversations about details of the topic. The conversations, more than the actual results, can therefore be seen as opportunities to understand the reasons behind the actions and of the key influencing aspects of decision-making processes.

For example, if a participant is asked to create something with clay and after some time they have not started yet, there is an opportunity to sit with them and have a conversation. In this conversation, the first question could be “What was the first thing that came to mind when you heard the question? Why? How do you feel about that thought?” The facilitator can then help the participant to create something to represent their answer.

There is no right or wrong answer in human-centred design. This should also be made clear to the participants and translators so they do not try to guess what the facilitator or the organisations involved want to hear from them.

6. Be mindful of cultural translation

Beyond language differences between the researcher and participant or between participants themselves, there are many cultural aspects that should be taken into account in human-centred project design.

Working in collaboration with local partners, understanding cultural practices was important in the project. Using contextualised examples and metaphors can, in these cases, make the

explanations easier, avoid disrespectful situations, and even open space for humour. Using symbols or icons that mean something different to the culture with whom you are working can hinder communication and understanding. All materials created went through a cultural check with local partners.



Conclusion

Design processes are very rarely clear and straightforward paths from ideation to completion. In this and most other projects, organisations are grappling with complex and multi-layered issues and changing environments, which so often make up humanitarian contexts. To use human-centred design in these contexts, researchers must be open to change and adaptation. Step by step, it is possible to learn how to be collaborative, flexible and agile together. Over time, this has the potential to become embedded into organisational processes and cultures and lead to more relevant, human-centred and sustainable interventions.

While challenging, this flexible methodology allows organisations to be more sensitive to users' perspectives, particularly those of the most marginalised. These perspectives are important to integrate in order to create a more inclusive future for digital humanitarianism, and for the humanitarian

sector more broadly. Humanitarians need to do more to integrate these perspectives and ensure that marginalised populations, like people with disabilities, are included at every step of project processes. This methodology can help to fill that gap.

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