spero

a digital application design to help connect retirees and refugees

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A PROJECT IN LIEU OF THESIS
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In honor of my deepest inspiration and those who
launched the original Sanctuary Movement in the 1980's:
**"When a stranger sojourns with you in your land, you shall not do
him wrong. You shall treat the stranger who sojourns with you as
the native among you, and you shall love him as yourself, for you
were strangers in the land of Egypt: I am the Lord your God."**
Leviticus 19:33–34 (ESV)

retirees + refugees

> **"If I look at the mass, I will never act. If I look at the one, I will."**
>
> Mother Teresa

Spero is a concept, system, and proposal—it is one possible solution to two wicked social problems (the refugee crisis and the growing population of retirees), which are practically impossible to solve. Spero is a mobile app and global platform that connects retirees and refugees based on their locality, needs, and skills. The overarching goal of Spero is to facilitate in the formation of reciprocal relationships between retirees and refugees.

For many retirees, the need to matter, or remain socially engaged, is critical to their psychological state of wellbeing. As refugees integrate into a new country, they need social capital, language practice, and assistance navigating the bureaucracy that retirees have successfully navigated their entire lives.

Through the use of a website, the Spero community expands and extends beyond the one-to-one matches formed in the app. The website hosts group networking, event creation, storytelling, and more information about the mobile app. The users are intergenerational and culturally diverse, requiring special features in the interface designs.

KEYWORDS

application design, service design, social design, refugees, retirees
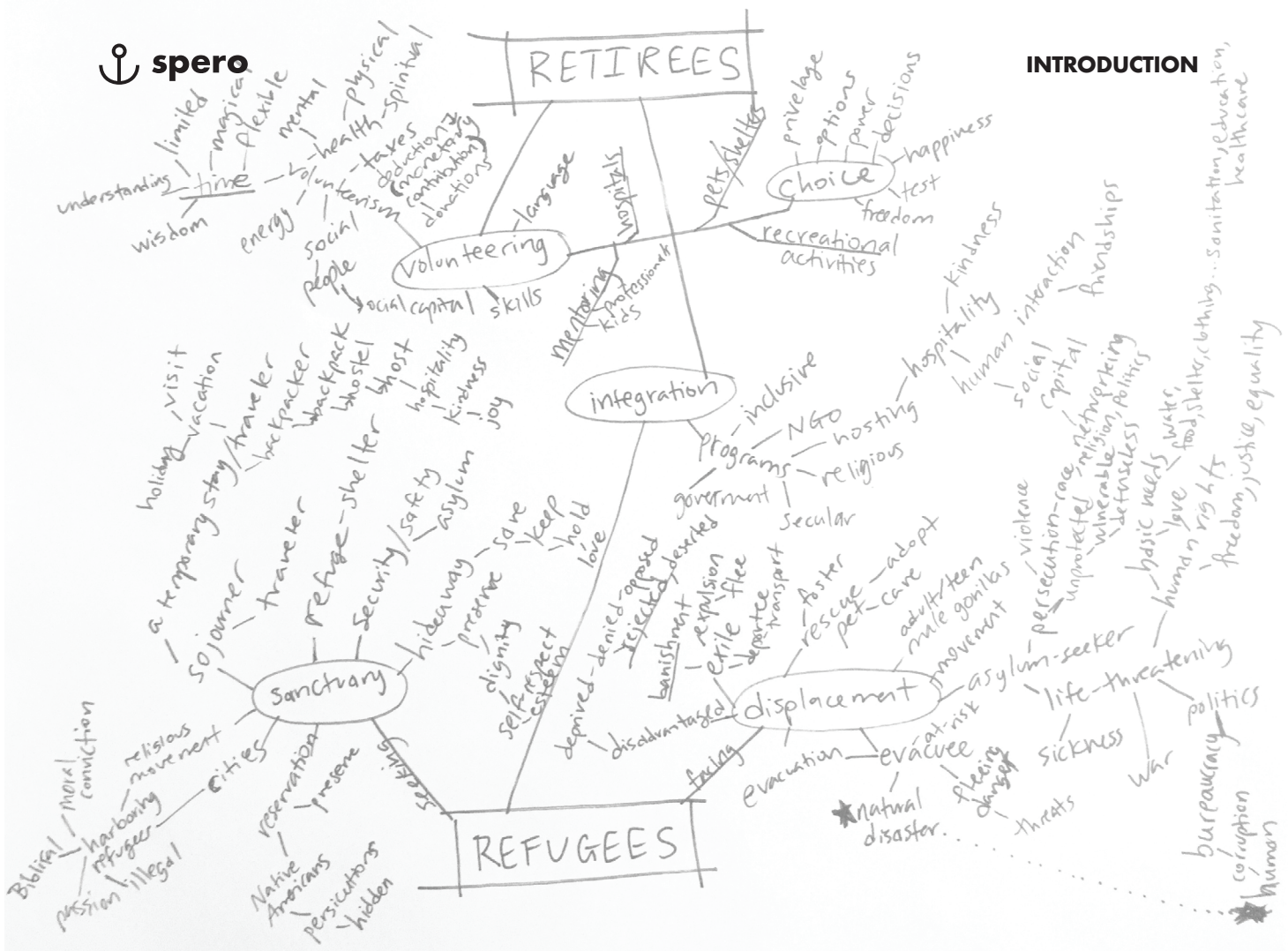
Figure 1

This mind map *(Figure 1)* is a visual representation of my thoughts while visiting my parents' home in the summer of 2017. My father had just retired, and I had just returned from volunteering with North Korean refugees in Seoul. I began to envision how retirees and refugees could reciprocally meet each others' needs as I observed my father's situation with his free time, skill set, and financial stability paired with his newfound need to find a purpose during retirement. I imagined how much more time I could have spent in Korea working with refugees that summer if I were in his situation.

I started researching North Korean topics in 2010 after two South Korean exchange students at my university took a moment over lunch to enlighten me on their country's unique history and divide.

I did not know then how rare those students were—I came to find out later that, in general, South Koreans prefer not to talk about the taboo topic of North Korea.

I first visited South Korea in 2013. Then, I lived in Busan in southeast Korea from 2014 to 2015 for a full year and taught English at a public school. Later in 2015, I started graduate school and began pursuing potential design solutions to some social problems I observed in the divided nation. I returned to Korea in the summers of 2016 and 2017 to pursue and cultivate my professional ties with PSCORE (People for Successful Corean Reunification), a non-governmental organization for North Korean human rights and activism based in Seoul. Outside of school, I have had the honor of designing campaigns *(Figure 2)* and reports for PSCORE for the last two years, and I intend to continue the relationship indefinitely.

My research has expanded from investigating North Korean refugee integration in South Korea to the global refugee crisis and integration. I understand the value of native citizens assisting in integration and providing social capital from my firsthand experiences assisting international students as a member of the International Friendship Program at my undergraduate university, and from receiving assistance from some of those same friends as I adjusted to South Korea as an expatriate.

I created Spero with my future retired self in mind. I am the target audience in the year 2056. The core of Spero is creating and inspiring real-world relationships, regardless of the methods and tools used.

Figure 2

- I am neither a retiree nor refugee; therefore, I am inherently not a user of Spero services. I had to acknowledge my implicit bias regarding the users and think reflexively about where I come from in the scheme of the world, both socioeconomically and geographically, while researching the audience and stakeholders (organizations that would interface with Spero, as mentioned in the *System Overview* of the *Project Report* section of this paper in this paper).

- I did not go through the IRB (Institutional Review Board) process to conduct original research with retirees and refugees. Therefore, I relied on my own observations from my limited personal interactions with retirees and refugees, noted in the *Introduction* of this paper, and secondary research, detailed in the *Works Consulted* section of this paper. Notably, if I had the opportunity to co-design Spero services with the users, then the designs, system, and in-app surveys would change in unpredictable ways directed by the users' needs after user testing.

- The Spero system is a proposal and concept. It has not yet been formally developed or tested in a real-world setting, as I produced it for an academic project. Spero relies on testimonies of retirees and refugees, some of which are noted in the *Influences* section of this paper.

- Spero is not attempting to solve either the overall refugee crisis or the psychological wellbeing of the mass number of retirees; rather, Spero offers one possible solution to aid in making small changes that have the potential to multiply and inspire meaningful and reciprocal real-life relationships between retirees and refugees.

For this project, my design process and research methodologies include observation, user inventory, informal interviews, developing personas, user journeys, iterative design, and secondary research from websites, podcasts, books, and academic papers.

My sister-in-law volunteers with World Relief, an international relief agency, in Durham, NC. She was paired with a local refugee family. She assisted them with integration and has continued to be part of their family. I have maintained contact with her throughout my project, from ideation to design, to get feedback from her perspective, as she continues to meet with the refugee family she is paired with in Durham. My best friend used to work at a refugee school in Charlotte. I consulted with her to learn about problems her students faced, and I visited the school in-person the summer before this project to get inspiration from how the school operates and assists refugees locally. I went to observe the cafe Mad Priest Coffee Roasters *(Figure 3)*, which is run by refugees in Chattanooga. I attended an event at a church for World Refugee Day *(Figure 4)* in the summer of 2017 and observed Chattanoogans welcoming refugees and sharing culture through food and music. I also privately volunteered a few times with a group of undocumented immigrants in Florida. These observations, paired with my experiences volunteering with North Korean defectors in Seoul, informed my design decisions throughout this project.

Figure 3

Figure 4

I conducted a user inventory study of objects *(example: Figure 5)* that my retired father interacts with, and I made observations based on those findings. I designed personas and sketched user journeys based on my secondary research on real-world retiree-refugee relationships. As professors, M.F.A. peers, and friends provided feedback and directed changes, I iterated new design solutions.
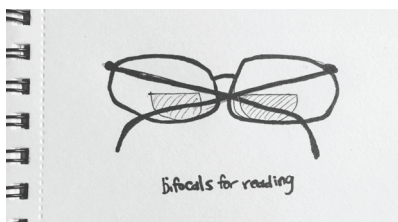

Figure 5

STORIES

These are some stories about reciprocal relationships between retirees and refugees that have made headlines around the world. These stories highlight an existing environment and audience that justifies the creation of and need for Spero's services.

Figure 6 (Ludden, 2011)

CAROL BROOKS, AMERICAN, retiree

"Mentor Carol Brooks, 72, wears a charm bracelet engraved with the names of the many refugees she's helped in the past decade. "Some of them call me Mom," she says. ..."I have mentored people from Africa, China, Bosnia, too," Brooks says." *Jennifer Ludden/NPR*
Image and quote source: https://www.npr.org/2011/01/17/132705619/retirees-lend-a-hand-to-refugees-in-fargo-n-d

Figure 7 (Gopalakrishnan, 2016)

WEDIG VON HEYDEN, GERMAN, retired lawyer

""Then I went to Caritas [Catholic aid organization-the ed.]—which was the group organizing these things at the time. They looked at me, thinking, 'Oh, he's an old man." Then they asked me whether I could imagine looking after a young Syrian. Now we've been together for two years," von Heyden says, looking at his Syrian-Kurdish protégé, Nidal Rashow." *Manasi Gopalakrishnan/DW*
Image and quote source: http://www.dw.com/en/german-volunteer-finds-his-calling-helping-refugees/a-19456138

Figure 8 (Marsh, 2017)

JAWAD SHALGHIN, SYRIAN, refugee & student in Germany

"Shalghin, who says he and Bauer [retiree] have taught each other a lot, says many new arrivals often find it easier to talk to older people. "They can understand us in a better way, they have patience. They can listen to us and wait until we get the right words and we have learned lots of cultural things from them: meals and songs."" *Sarah Marsh/The Guardian*
Image and quote source: https://www.theguardian.com/society/2017/nov/15/miss-family-older-germans-taking-in-syrian-refugees

Figure 9 (Tang, 2017)

ROBERT TAYLOR, CANADIAN, retired professor & civil servant, chairs the Ottawa South Committee for Refugee Sponsorship

""I know some people who throw up their hands," he said, noting the millions fleeing Syria, let alone the tens of millions of refugees globally. But "we've got applications for a total of 20 refugees we're sponsoring now. That's 20 fewer that are out there."" *Justin Tang/The Globe and Mail*
Image and quote source: https://beta.theglobeandmail.com/report-on-business/retirees-roll-up-their-sleeves-to-help-refugees/article32349457/?ref=http://www.theglobeandmail.com&

The global population of refugees is growing in unprecedented numbers (United Nations High Commissioner for Refugees, 2018). At the same time, as the baby boomer generation ages, the world braces for the largest population of retirees in history (Mather, 2016). By examining the needs of these diverse groups, it is clear to see that willing retirees and refugees are capable of developing reciprocal relationships. As displayed on the previous page, there is evidence of these relationships forming around the world.
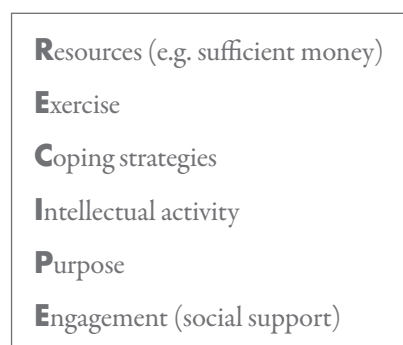
Resources (e.g. sufficient money)

Exercise

Coping strategies

Intellectual activity

Purpose

Engagement (social support)

Figure 10 (Milne, 2013)

I read *The Psychology of Retirement: Coping with the Transition from Work* by retired British psychologist Derek Milne in effort to better understand the psychological effects of retirees' social reintegration after retirement. Dr. Milne writes about a "recipe," as illustrated in *Figure 10*—these points (RECIPE) constitute guidelines for a healthy retirement and serve as the book's framework (Milne, 2013). For the sake of my project, I focused on the sections of the book that deal with the topics of "purpose" and "engagement/social support."

Retirement disrupts social support and constitutes as one of life's major transitions. After the author details the affects that loneliness can have on some retirees, Milne concludes that "whether from intimate relationships or not, effective social support includes informational, practical, and emotional help, and provides general companionship. It gives us a sense of attachment, belonging, recognition, and guidance" (Milne, 2013). With regard to the retiree's need to find purpose, Milne speaks to the value of social capital in that "with greater social capital we will act together more effectively, responding jointly to adversity and towards shared goals, in ways that tend to promote heart-warming things like reciprocity, social bonds (cohesion), belonging, meaning, and purpose" (Milne, 2013).

I was influenced by Dr. Milne's observations from his own retirement and the stories he tells of other retirees. My reflection is that *disruption* to adjusting to a new lifestyle—as retirees maneuver life after thirty plus years of a rigid work schedule—and *disruption* to adjusting to a new place—as refugees integrate to a new country—brings up a point of entry to why relationships between retirees and refugees have been successful and reciprocal. As both groups reckon with their new sense of identity, they can relate to and empathize with one another in a unique way. Ben Heaven, a British Medical Psychologist who studies social relationships, echoes Milne's advice. Dr. Heaven writes about the kinds of interventions that have been designed to promote social roles in retirement as people adapt their sense of purpose and self-efficacy that might have been embedded in their former work roles (Heaven, 2013). The author notes that activities like volunteering can "provide a sense of purpose, worth, identity, or structure to life" for retirees (Heaven, 2013).
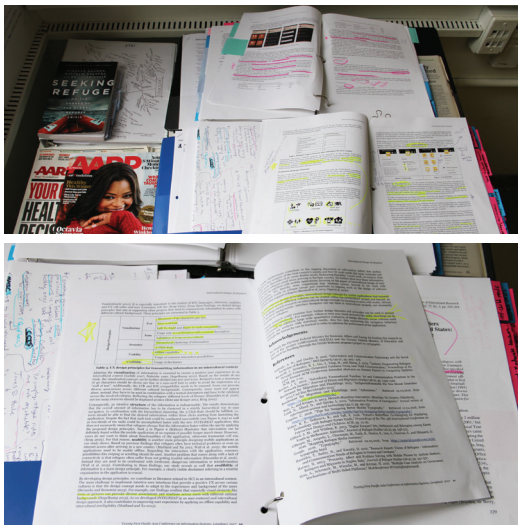

Figure 11

I consulted numerous sources while attempting to understand potential Spero users, retirees and refugees, which are noted in the *Works Consulted* section of this paper. I will focus on five academic papers that direct designers on how to design for these diverse groups. The following three pages touch on how these papers address user research with regard to Spero users' unique needs and concerns in relation to digital user interface design. I retrieved these articles and papers from the *Procedia Computer Science's 5th International Conference on Software Development and Technologies for Enhancing Accessibility and Fighting Info-exclusion*, IBM Research – Tokyo, a paper from the *Twenty First Pacific Asia Conference on Information Systems, Langkawi*, and a Social Anthropology thesis paper by Silke Jungbluth on "smartphone refugees" from the University of Tampere in Finland.

A group of Information Systems scholars from Germany proposed a set of design principles for designing mobile application interfaces for refugees based on feedback from testing the mobile application *INTEGREAT*, which is used by refugees for local information gathering. Their findings were reported at the *Twenty First Pacific Asia Conference on Information Systems, Langkawi*, 2017. Their tests considered user interface design feedback from intercultural refugees across four different refugee camps. The group then iterated the existing *INTEGREAT* mobile application user interface designs after gathering feedback (Schreieck, 2017).
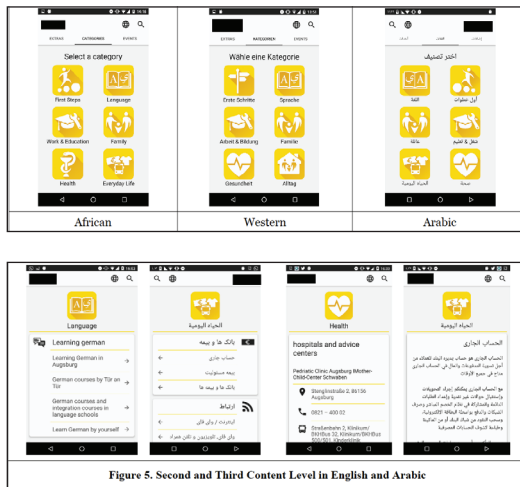

Figure 5. Second and Third Content Level in English and Arabic

Figure 12 (Schreieck, 2017)

They prepared a chart *(Figure 13)* to highlight some design principles for designers follow when designing services in the form of mobile applications for refugees (Schreieck, 2017). Though this research was conducted within the refugee community, the design principles for typography, iconography, structure, and content for cross-cultural design and human-computer interaction purposes apply to any designer attempting to maximize accessibility to all people (Schreieck, 2017). The *INTEGREAT* screens *(Figure 12)* show variations in iconography and layout, depending on who is using the app and which direction they are reading in order to transmit information interculturally and intuitively to the users (Schreieck, 2017).

Design Principles	**Visualization**	**Text**	Maximum of 40 characters per line
			Sans-serif font
			Left-To-Right and Right-To-Left compatibility
		Icons	Usage only in combination with a textual description
			Validation of icons across cultures
	Structure		Hierarchical clustering of information
			3-Click-Rule
	Usability		Offline capability
			Usage of common interaction possibilities
	Credibility		Usage of disclaimer

Figure 13 (Schreieck, 2017)

With regard to the research and findings for the *INTEGREAT* app, I designated "Language Selection" as the first screen in the Spero app on-boarding process. Navigational icons and layouts could and should theoretically shift based on the user's cultural background and language specifications.

Social Anthropologist Silke Jungbluth conducted interviews with Iraqi refugees in Helsinki regarding how they used smartphones. Jungbluth writes about "smartphone refugees" and notes that their phones are indispensable to them for planning routes, finding information, keeping in touch with family back home, and finding organizations or individuals offering help in different countries (Jungbluth, 2017).
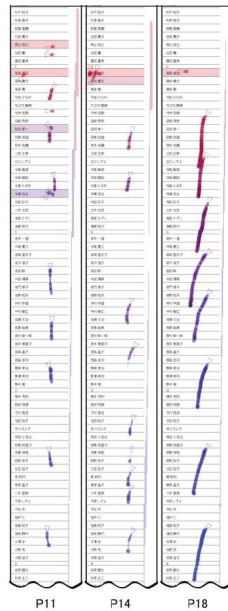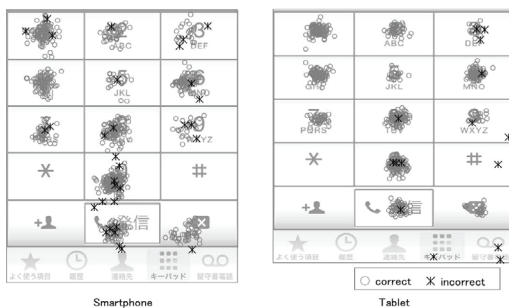

Figure 14 (Harada, 2013)

IBM Research – Tokyo conducted interviews in its study, *Characteristics of Elderly User Behavior on Mobile Multi-Touch Devices*, which details the resulting needs expressed by twenty-one elderly participants and proposes user interface design considerations for elderly based on those results (Harada, 2013). Pictured to the left are two images from the user interface testing scenarios. *Figure 14* compares three participants' scrolling and tapping gestures on a mobile smartphone. IBM researchers analyze the differences in user experience on the same screen and how some participants make short gestures to "nudge-flick" the screen to scroll through contacts, while others take longer strokes and "stroke-flick" the screen to scroll through contacts (Harada, 2013). My takeaway from this is that the method of flicking could cause the screen to slide too quickly, so the interface design should be adapted to account for a smooth scroll regardless of how the users swipe the screen. *Figure 15* shows the difference in elderly miss-taps on numerical keypads from a small iPhone to a large iPad. For this reason, I designed the retiree's Spero user interface demonstration for the iPad.
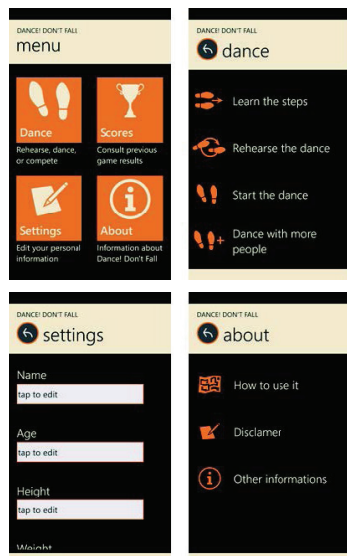

Figure 15 (Harada, 2013)

Figure 16 (Barros, 2014)

Visual design for the elderly is also a topic that Barros, Leitao, and Ribeiro discuss in their paper from *Procedia Computer Science on Design and Evaluation of a Mobile User Interface for Older Adults: Navigation, Interaction, and Visual Design Recommendations*. This study tests *Dance! Don't Fall*, a "dance and fall risk assessment app," *(Figure 16)* which was designed for elderly users and employs some use of gamification, which users struggled with in terms of the wording used in the app (Barros et al., 2014).

Tap and swipe gestures are reportedly confusing for elderly users— for example, some participants, unfamiliar with how to navigate back to the previous screen or the main menu, tried scrolling up rather than tapping the back button (Barros et al., 2014). The study suggests that designers use icons along with text, provide generous spacing between items, minimize keyboard usage, take advantage of scrolling if the application requires it (as elderly users intuitively mastered the concept of scrolling), and use the back button and home screen as navigational features (Barros et al., 2014).

Another paper from *Procedia Computer Science* proposes guidelines for how to design mobile interfaces for older people. It suggests that icons should be simple and meaningful, background colors should not be pure white or change rapidly in brightness, screen layout and terminology should be simple, and graphics should be relevant without elaborate animations (Díaz-Bossini & Moreno, 2014). The paper also examines apps built for the elderly, such as *Big Launcher Application* and *App Fontrillo*. While designing the Spero user interfaces for retirees and refugees using both Android and iOS on different devices, I tried to follow these guidelines paired with the design principles proposed in the *INTEGREAT* case study with refugees.

Figure 17
(International Rescue Committee, 2015)

Figure 18
images from BBC & HuffPost

Objects that we possess and interact with can highlight our needs and values. For example, in 2015 the International Rescue Committee (IRC) gathered information on what refugees carry in their bags *(Figure 17)*, from technology to toothpaste (International Rescue Committee, 2015).

I specifically chose to design an Android mobile interface for the Spero refugee in-app user journey demo in my project because the majority of refugees and people in general around the world who use smartphones use the Android operating system (Dunn, 2016). Therefore, I used a twenty-five dollar prepaid Android smartphone with WiFi capabilities to display the refugee's interface at the Spero exhibition. I did not do this to generalize that all refugees use cheap phones; rather, on the contrary, I found by observing sites of refugee charging stations in refugee camps through various news sources *(Figure 18)* and in the IRC's case study on the contents of refugees' bags that refugees often have expensive smartphones, as that is their lifeline. The phone I bought was what I could afford for my exhibit, and it had the Android operating system to display the interface. Likewise, I designed a larger screen for the app in the form of an iPad with larger fonts for the retiree in-app user journey demo in my project. Studying objects that users interface with on a daily basis allows designers to effectively design for them.

For twenty days, I collected objects from my father's daily life and noted observations in my visual diary, a user inventory study, as pictured on the following pages. I observed he has bifocals for reading, uses a flip phone, writes checks, has AARP and other magazine subscriptions, has two cars, and carries a pen. Small observations like these informed my decisions as I made the Spero app surveys and interfaces, such as increasing font sizes for the retiree interface.
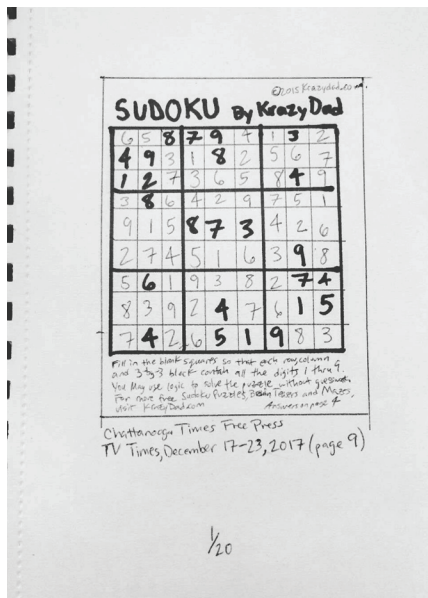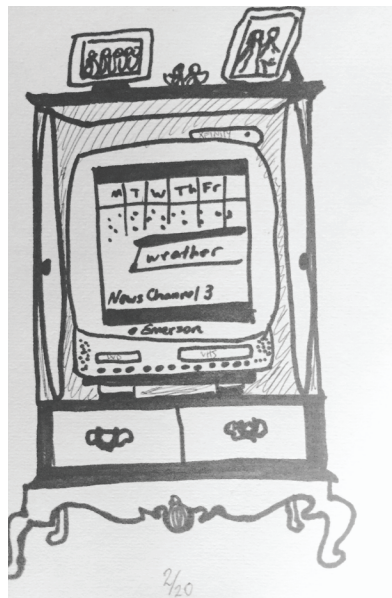
Figure 19

Observations

He subscribes to local newspaper, keeps TV guide section for the week, and confidently completes sudoku puzzles in pen.

notes: retired math teacher, always reading and doing small brain-stimulating activities to prevent Alzheimer's

Figure 20

Observations

He uses a square TV, has quality furniture (part of a matching living and dining room set) that houses the TV, watches local news and weather, has printed pictures of family in frames on top of the TV furniture, & uses a Comcast Xfinity cable box.

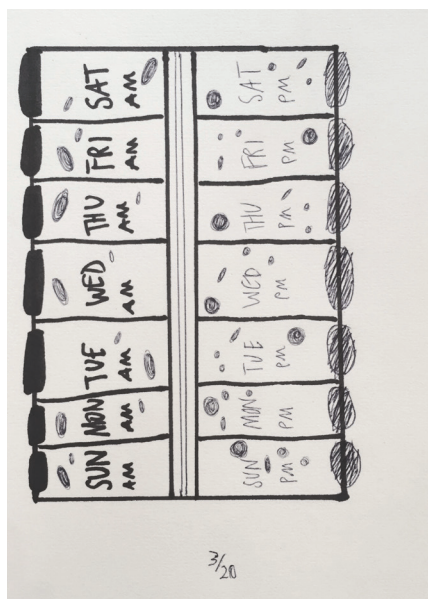motto: if it ain't broke, don't fix it; values: family, local

Figure 21

Observations

He takes medicine for various health and preventative reasons. The transparent pill case allows him to inventory contents without having to physically open compartments. Push tabs easily open compartments, and AM and PM of days all face the same direction.

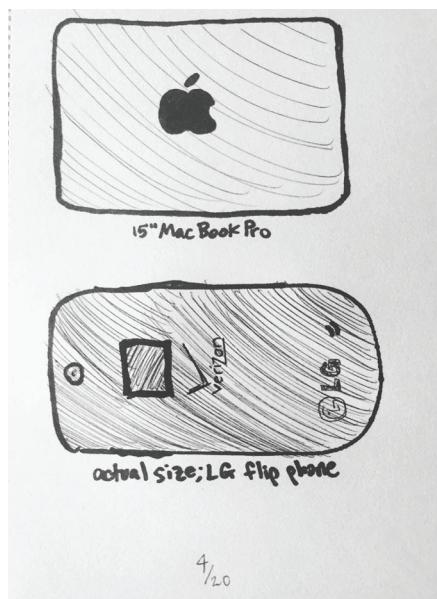design elements: large fonts & contrasted color tones paired w/words AM & PM to denote dosage day & time

Figure 22

Observations

He chose the 15 inch over the 13 inch display in order to view screen displays larger, and he got the refurbished MacBook Pro when his PC laptop (a secondhand IBM Thinkpad from his daughter) bit the dust. He used computers minimally at work until he retired. Now, he uses the MacBook Pro at home to do taxes and check financial assets, Facebook, and Email. He uses the FaceTime app on the MacBook Pro to talk to his children when they are abroad. Also noted, he uses a flip phone and has no desire to upgrade to a smartphone because he says has no need for one. (He has his son's used iPhone 5 with a partly cracked screen collecting dust in a desk drawer in the kitchen.
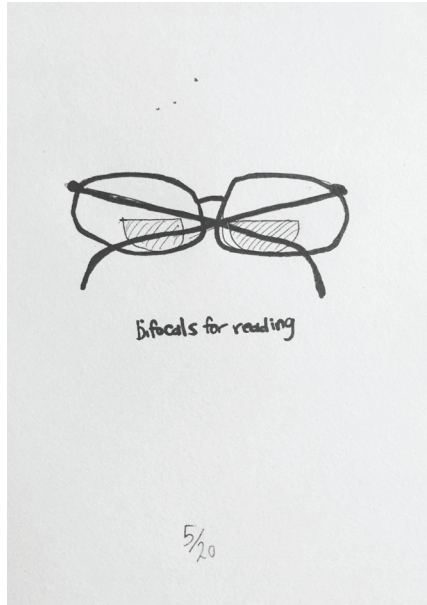
Observations
He uses bifocal glasses for reading and using the computer.

bifocals for reading

5/20
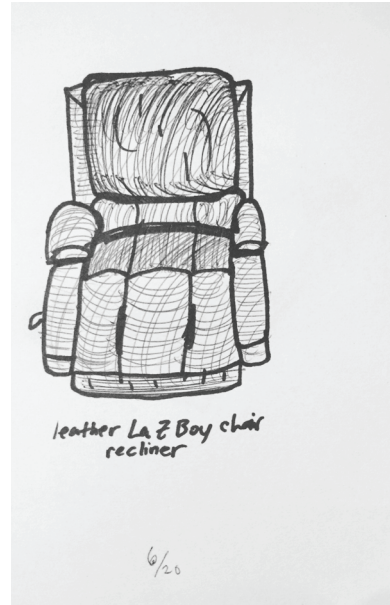
Figure 23

Observations
This soft leather La Z Boy chair is designed for comfort, from reclining to rocking. The chair faces TV in a large living room.

leather La Z Boy chair recliner

6/20

Figure 24

Observation
He's always reading mystery novels.

JAMES PATTERSON
CROSS MY HEART

7/20

Figure 25

Observation
He has a coffee pot on the kitchen counter.

personal note: I (27) still don't know how to make coffee this way, as I've used K-cups since I started drinking coffee.
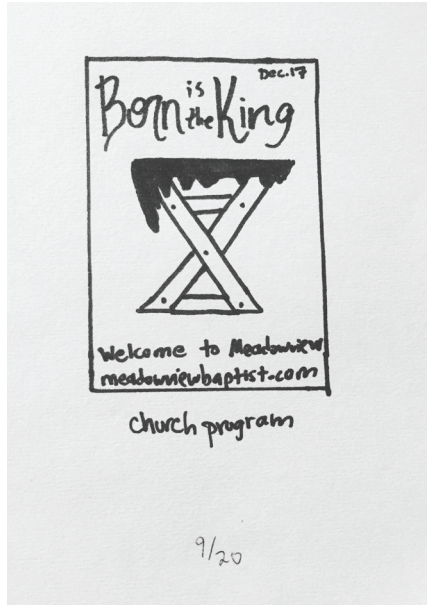
BLACK&DECKER

8/20

Figure 26

Observations
He attends church service and Sunday school, has community through church connections, and relates with Christian values.

Figure 27

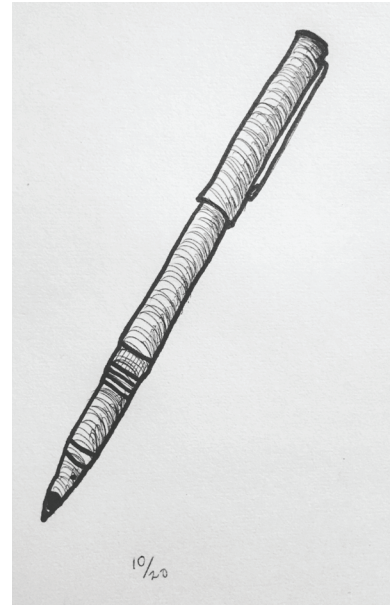**Observations**
He always has a pen in his shirt pocket. (once a teacher always a teacher?)

personal note: I (27) almost never have a pen available, and I make notes on my iPhone.
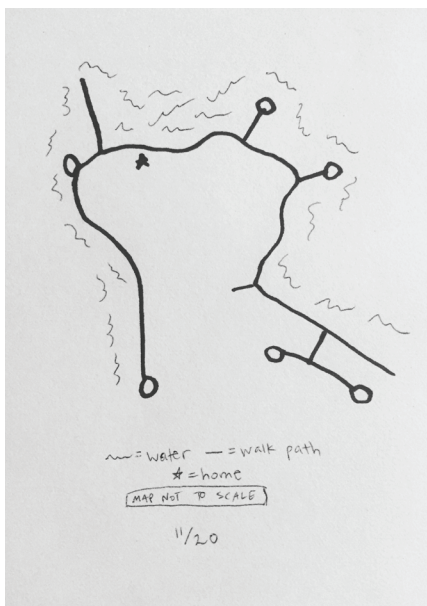
Figure 28

Observation
He takes his new puppy on walks along segments of this path or local parks several times a day.

Figure 29

Observation
He has personal checks to pay bills.
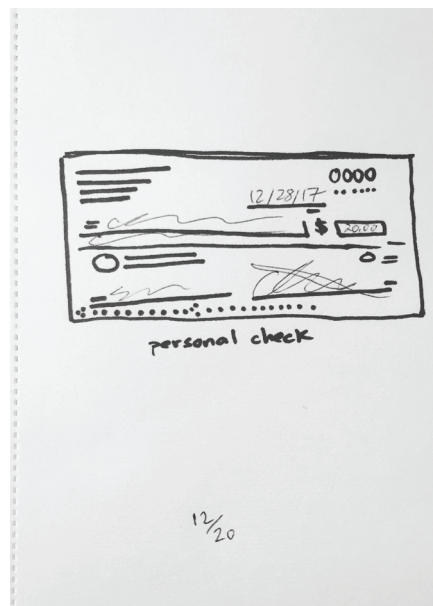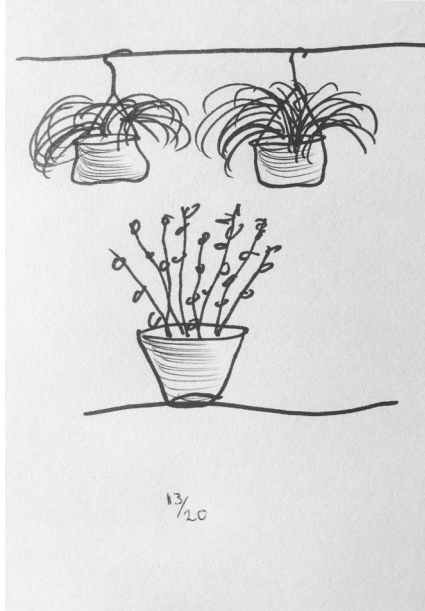
Figure 30

Observation
He has an assortment of plants, mostly outdoors.

Figure 31

Observations
He shares his Facebook page with his wife. Pictures portray their children, family members, and pets. He has 262 Facebook friends, and doesn't know who some of them are "I just accept the requests, I don't want to offend anyone."

Figure 32
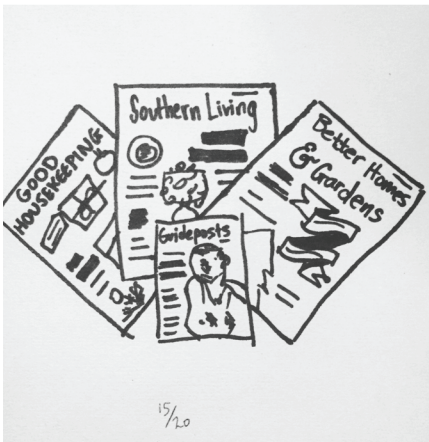
Observations
These brands cater to middle-aged audiences, namely women. Found around his home, he said the magazines come in the mail because his mother-in-law orders them for him and his wife each year. Guideposts is a small Christian-based monthly publication.

Figure 33
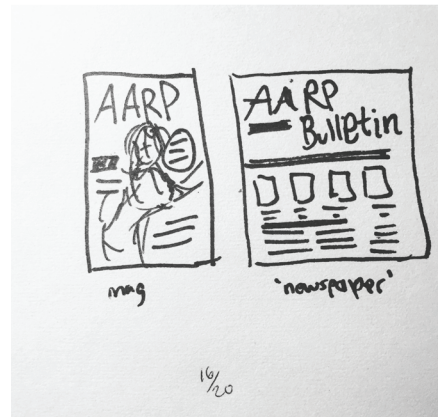
Observations
He is a member of AARP (American Association of Retired Persons), and gets the magazine and bulletin in the mail.

Figure 34

Figure 35

Observations

He owns his home and lives with his wife. He has 3 cats, a dog, and 3 children that live out of town. The house has 5 bedrooms, a large living room, kitchen, dining room, storage, 3 bathrooms, 2 car garage, back and front porches, and a yard in a suburban neighborhood. He has neighbors around, and knows some of them, but not well.

Figure 36

Observations

He got a goldador rescue puppy two years into retirement for exercise & companionship, as his wife continued working & his kids live out of town.
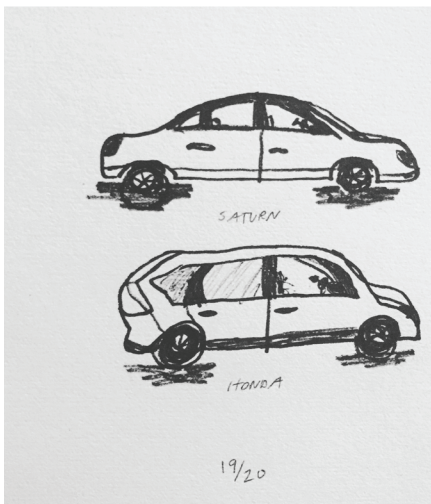
Figure 37

Observations

He drives a white Saturn sedan, & his wife drives a white Honda CRV.

Figure 38

Observations

He has rewards cards for various stores, has his car key, his wife's car key, his house keys, and his mother-in-law's and her sister's house keys on his keychain.
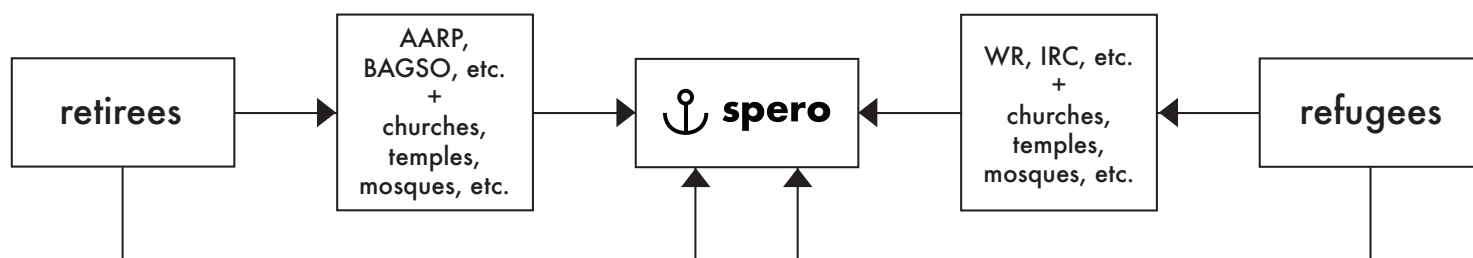
Figure 39

SYSTEM OVERVIEW

Spero is a global platform that connects retirees and refugees locally based on their needs and skills. The movement requires partnerships with retiree, refugee, and religious organizational sectors to help promote Spero services to potential users. From the retiree sector, Spero requires participation from retirement centers and organizations like AARP (American Association of Retired Persons) and BAGSO (Germany's federal association of senior organizations). From the refugee aid sector, Spero requires participation from organizations like WR (World Relief) and the IRC (International Rescue Committee).

Figure 40

THE NAME

The name Spero means "I hope." It comes from the Latin phrase "dum spiro spero," which means "while I breathe, I hope." Spero translates similarly into some Romance languages (ie. espero, "I hope" in Spanish). I ran across this term in my word map *(Figure 40)* while investigating the meaning of "indispensable," which I found in a quote by professor Friederike von Schwerin-High as she described three German novels that romanticize relationships of retirees and refugees as indispensable to one another (Von Schwerin-High, 2017).

Figure 41

Figure 42

SKETCHES

These are some of my branding sketches. After making Pinterest boards for inspiration, I drew multiple versions of letterforms and symbols while brainstorming and researching. I did not sit down to sketch these all at once; rather, over multiple weeks, I returned to the drawing board and finally took some concepts to the computer.
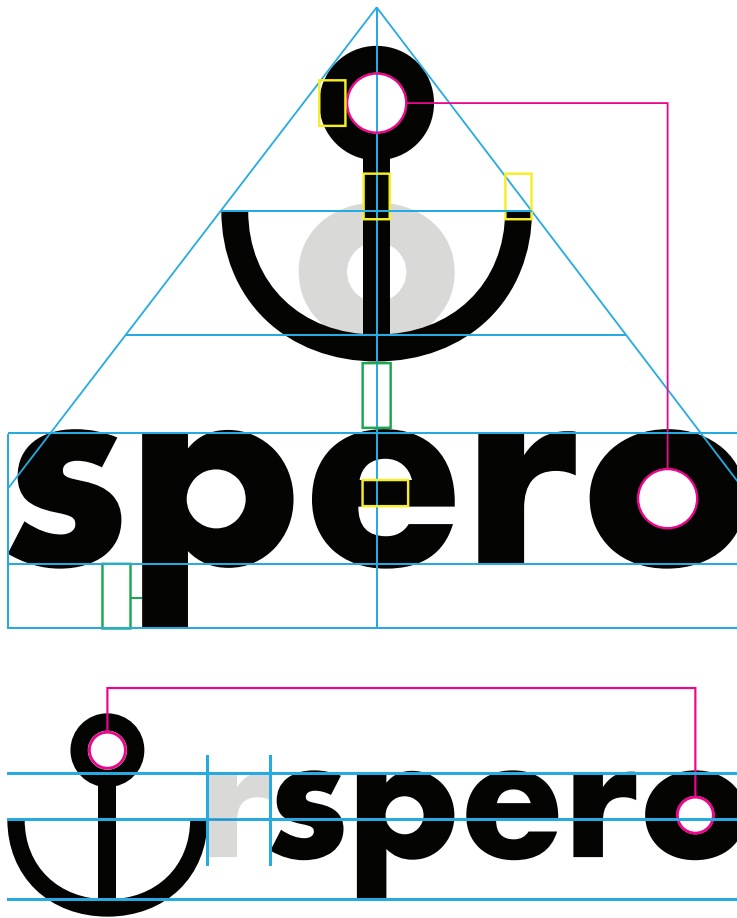
Figure 43

Figure 44

THE LOGO CONSTRUCTION

I carefully constructed the logo, considering kerning, both vertical and horizontal orientations, as well as the stroke width of the logomark in contrast with the logotype.

THE LOGOMARK

The logomark is a reference to the term "anchor" (n): "also referred to as a "U.S. tie," a family member or friend in the United States who can provide assistance to a refugee during resettlement," according to the Catholic Charities of TN refugee dictionary (Catholic Charities of Tennessee, Inc., 2013). Anchors also symbolize stability, strength, hope, and a safe end to a long journey—a meaning that resonates with both retirees and refugees as they socially reintegrate and/or integrate, respectively. Repetition of the anchor logomark forms a tessellation that references connectivity *(Figure 44)*.
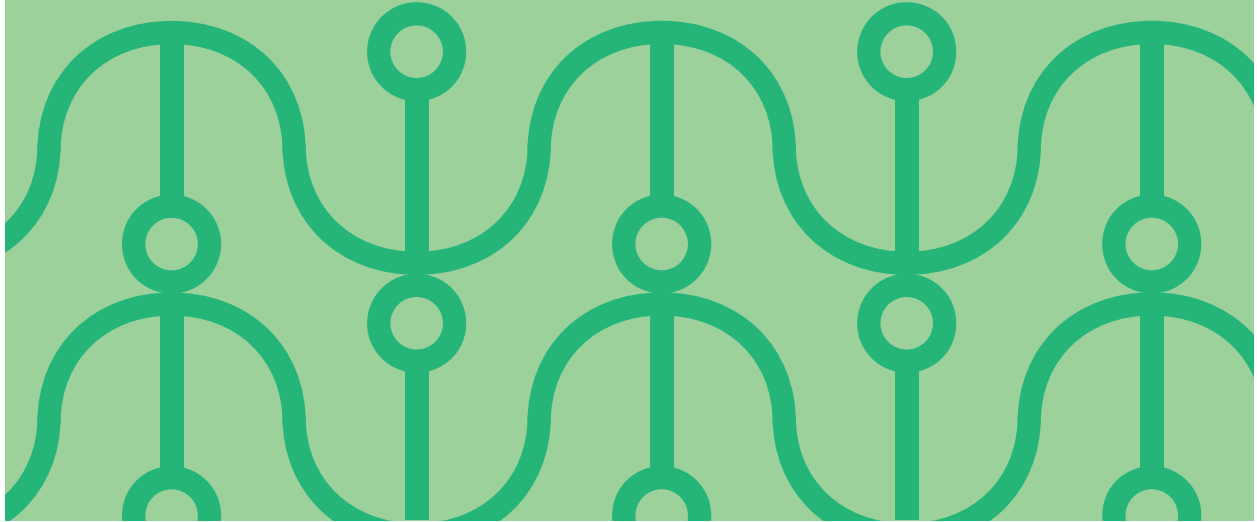
Figure 45

spero

Figure 46

THE LOGOTYPE

The logotype uses Futura Bold for its accessibility regarding the boldness, clarity, and simplicity of its sans-serif letterforms—these are design principles that Schreieck encourages while designing for intercultural audiences, as noted in the *Influences* section of this paper (Schreieck, 2017).

THE COLOR PALETTE

The color palette is bright green with contrasting accent colors throughout the app interface. Green is a safe color around the world, and "it means life and plenitude pretty much anywhere on Earth where plants grow" (Lupton, 2017). It represents growth, safety, nature, luck, and renewal.

C: 75 M:0 Y:71 K:0
R: 39 G: 182 B: 122
hex #: 27b57a

C: 58 M:0 Y:78 K:0
R: 114 G: 193 B: 108
hex #: 72c16b

C: 40 M:0 Y:50 K:0
R: 157 G: 210 B: 156
hex #: 9dd19b

Figure 47

23

PERSONAS

The following pages describe Spero's potential users. I created two scenarios of matched pairs based on personas that I designed in response to my secondary research on existing retiree-refugee relationships. I found that many retirees who volunteer with refugees are retired teachers and lawyers with unique motivations due to their interactions with refugees during their careers.

The first match is Ayah and Christina. They are hypothetically located in Chicago, IL, USA, a designated sanctuary city and ideal host for a Spero community. I designed the user journeys displayed in the mobile application demonstration videos based on these specific persona-based users. Additionally, I appli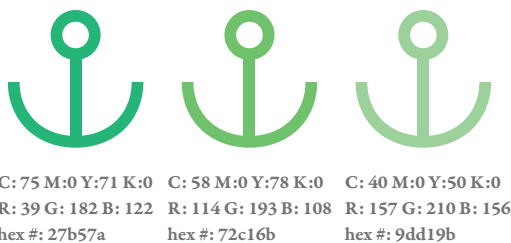ed quotes to these personas on the wall infographic for the Spero exhibit. I used my first name for the retiree here with full intentionality, as to design for my own future. I ran across the name Ayah in an interview with a refugee from Syria.

The other match scenario of Mohammad and Henryk takes place in Hamburg, Germany, a similarly welcoming city for refugees. I was personally inspired to select Henryk as the retiree's name here because of my personal heritage and relation to Henryk Sławik. My surname "Singer," is an invented one. My surname was Sławik before my great-grandfather immigrated to Ellis Island and changed his name years later. After some intense genealogy research on *Ancestry.com* and with the help of a distant relative, I found my relation to Henryk Sławik, a politician and activist who was killed by Nazis for forging documents to save the lives of thousands of refugees during World War II.

spero

AYAH REFUGEE

AGE	34 yrs.
GENDER	female
FROM	Syria (3 yrs. displaced)
STATUS	refugee
CURRENT CITY	Chicago, IL, USA (9 mos. resettled)
OCCUPATION	baker; former bakery owner w/husband in Syria
INCOME	$22,500/yr.; $45,000 combined with husband
FAMILY	husband, 2 girls (9 & 12 yrs. old), & a cousin living in Chicago, 3 siblings & an aunt in Syria
FEELING	lost, disconnected, brave, & hopeful
GOALS	meet Americans & understand the culture
MOTIVATIONS	better future for children, survival, & integration
INTERESTS	flower arranging, cooking, & embroidery

LANGUAGE

Arabic (native)

English (intermediate):

reading

writing

speaking

listening
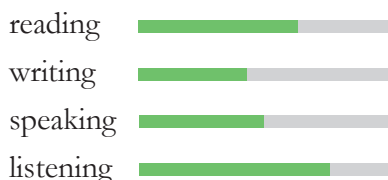
VALUES

- family
- safety
- cultural preservation
- independence

NEEDS

- social capital
- language practice
- friends

CONCERNS

- good health for herself & family members
- fear that children will be bullied or rejected by American children
- financial stability

TECH

- Android smartphone
- Dell laptop
- in-home Wi-Fi

SKILLS

- accounting
- management
- marketing
- baking

EDUCATION

Associate degree in Business Administration from Damascus University in Syria

TRANSPORTATION

- uses public transit
- comfortable walking

SOCIAL

- uses WeChat & Google Hangouts to keep in touch with family & friends
- member of Syrian Community Network on Facebook

ORGANIZATIONS

- Masjid Al-Faatir Mosque
- refugeeone.org

QUOTE

"'We came to a country that is not our country, and everything changed on us: the system, the people the area, the city," she says in Arabic."

(SOURCE: https://www.npr.org/2017/01/04/508220451/in-toledo-syrian-refugees-are-welcomed-amid-a-difficult-immigration-climate)

CHRISTINA RETIREE

AGE	68 yrs.
GENDER	female
FROM	St. Paul, MN. USA
STATUS	US citizen, daughter of German immigrants
CURRENT CITY	Chicago, IL, USA (33 yrs.)
OCCUPATION	3 yrs. retired public school US History teacher
INCOME	$70,000 (pension)
FAMILY	1 yr. widowed, 3 out-of-town adult children, 5 grandchildren (2, 3, 6, 7, & 10), & a brother (72)
FEELING	lonely, purposeless, reflective, & optimistic
GOAL	create a purposeful post-retirement life; to matter
MOTIVATIONS	motivated by students & parents' immigration story
INTERESTS	tennis, walking, flower arranging, & classical music

LANGUAGE

English (native)

German (beginner):

reading

writing

speaking

listening

VALUES

- security
- hospitality
- family
- privacy
- independence

NEEDS

- companionship
- to be needed (to matter)
- activities

CONCERNS

- using time wisely
- distance from family members

TECH

- iPhone
- iPad Air
- HP desktop computer
- in-home Wi-Fi

SKILLS

- teaching
- cooking
- piano

EDUCATION

B.A. in History from Winona State University in MN & Masters in Education from The Hamline School of Education

TRANSPORTATION

has a car

SOCIAL

- part of an intergenerational Bible study group at church
- uses Facebook & FaceTime to keep in touch with adult children and grandchildren

ORGANIZATIONS

- St. James Lutheran Church
- AARP member

QUOTE

"I don't think I expected to be so close to them and care so much about them as I do. I thought this was going to be somewhat distant."

(SOURCE: https://www.nytimes.com/2017/03/25/world/canada/syrian-refugees.html)

MOHAMMAD REFUGEE

AGE	29 yrs.
GENDER	male
FROM	Syria (1 yr. displaced)
STATUS	asylum seeker
CURRENT CITY	Hamburg, Germany (1 mo.)
OCCUPATION	former architect in Syria; currently unable to work in Germany while seeking asylum
INCOME	volunteer at a B&B for meals & accommodation
FAMILY	wife, 3 yr. old girl, 2 brothers & father in Syria, 1 cousin in Germany
FEELING	anxious, vulnerable, insecure, displaced, & hopeful
GOALS	attain refugee status in Germany; provide for family
MOTIVATIONS	better future for family & survival
INTERESTS	music, art, & soccer

LANGUAGE

Arabic (native)

German & English (beginner):

reading

writing

speaking

listening

VALUES

- safety
- family
- integrity
- honesty

NEEDS

- to understand Germany
- language practice
- social capital

CONCERNS

- getting refugee status for family
- not being able to earn money
- attaining stability
- facing prejudice
- learning codes in the German architectural world

TECH

- Android smartphone
- external hard drive

SKILLS

- project management
- drawing
- design

EDUCATION

B.A. in Architecture from the University of Aleppo

TRANSPORTATION

- uses public transit
- comfortable walking

SOCIAL

- uses WeChat in public Wi-Fi to communicate with friends & family in Syria

ORGANIZATIONS

- The Refugee Centre Hamburg (Flüchtlingszentrum)

QUOTE

"Older people can understand us in a better way, they have patience. We have learned lots of cultural things from them– meals and songs."

⚓ spero

HENRYK RETIREE

AGE	65 yrs.
GENDER	male
FROM	Szeroka, Poland
STATUS	German citizen (immigrated for university)
CURRENT CITY	Hamburg, Germany (20 yrs.)
OCCUPATION	retired lawyer
INCOME	€68,600 (pension, etc.)
FAMILY	divorced, 2 adult children, a sister, & a mother
FEELING	disconnected, relief, reflective, & relaxed
GOALS	leave a legacy, self-improve, & keep active
MOTIVATIONS	motivated by justice & personal integration
INTERESTS	golf, skiing, hiking, & reading

LANGUAGE

German (native)

English (advanced):

reading

writing

speaking

listening

VALUES

- family
- justice
- privacy
- financial stability

NEEDS

- friends
- community

CONCERNS

- health
- social re-integration
- adult children finding partners

TECH

- Andriod smartphone
- Android tablet
- in-home Wi-Fi

SKILLS

- navigating bureaucracy
- communicating
- advocating

EDUCATION

Erste Juristische Prüfung at the Faculty of Law University (Humboldt-Universität zu Berlin)

TRANSPORTATION

has a car

SOCIAL

- uses Facebook to network
- uses email to occasionally keep in touch with former colleagues

ORGANIZATIONS

- BAGSO member (Bundesarbeitsgemeinschaft der Senioren-Organisationen)

QUOTE

"Somebody like me has a lot of time. I live comfortably and it would be worthwhile doing something like that [volunteering]."

THE APP

The purpose of the native application is to connect retirees and refugees in real life based on locality and availability. These two conditions are the bare minimum requirements for a match to form. I designed the in-app surveys in the "Personal Information" and "Match Preferences" sections of the app, as displayed in this section of the *Project Report*, in order to filter out strong desires to avoid unsuccessful matches.

The goal is for the app to be used for a minimal amount of time, only matching one refugee with one retiree per referral code to encourage in-person relationships. There are no photos or identifiable personal information to judge people in the app. Features like the privacy policy and referral code attempt to address issues of concern for security purposes, but inevitably these components of the app would be constantly updated to respond to the users' needs. Perhaps a more approachable and understandable privacy policy, such as a visual narrative or an animation, could be integrated into the on-boarding process of the app to demystify the small print and gain the trust of the retiree and refugee users. When users match, the app generates a public location, date, and time to meet, as seen in *Figure 48*, based on their location and availability as specified in the app surveys. Users can request to edit the plan to suit their needs, and their match can approve the suggestion or request further edits until both people agree on a location, date, and time.

The app does not encourage online communication. A simple editable status bubble is the only tool in the app that allows communication before meeting in person. The differences in the Android and iOS versions of the native apps are minimal. Notably, the navigation bars and fonts are oriented and selected based on Apple's iOS guideline suggestions and Google's material design guidelines.

Figure 48

Congratulations!

You matched with
Ayah

Congratulations!

You matched with
Christina
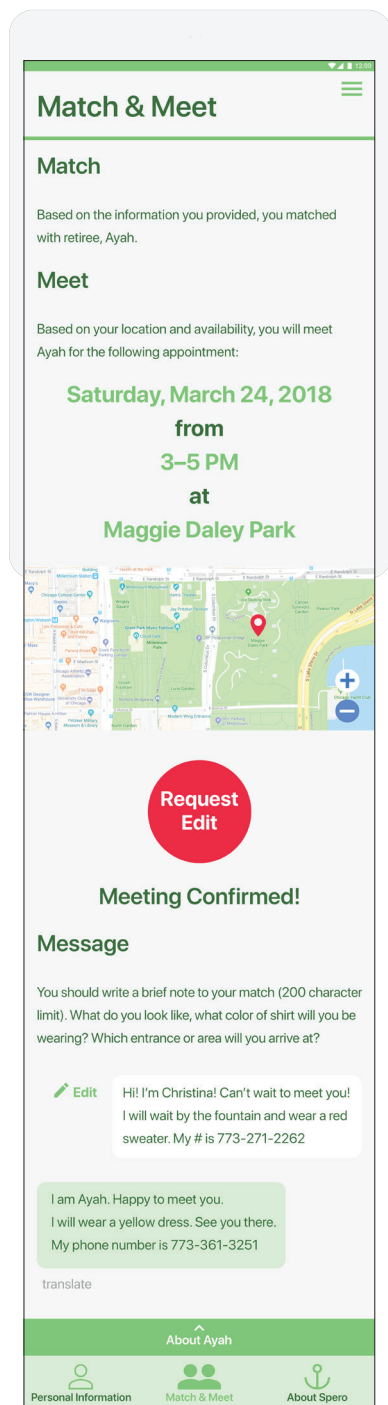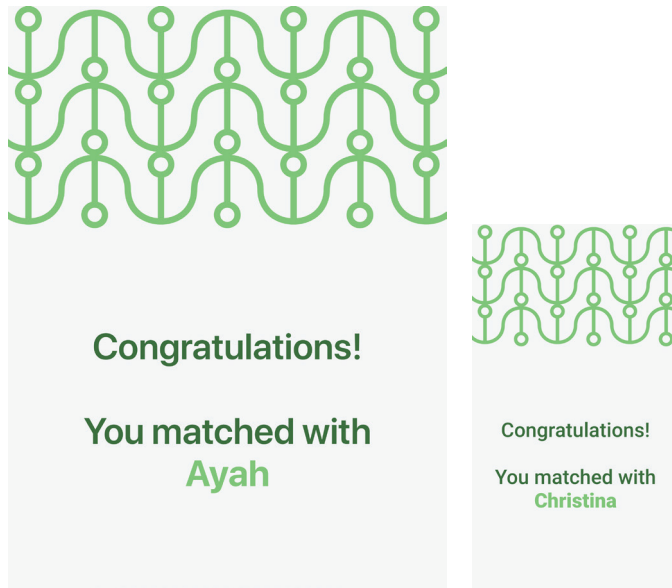
Figure 49; link to iPad & mobile Android app demos:
christinasinger.com/portfolio/mfa
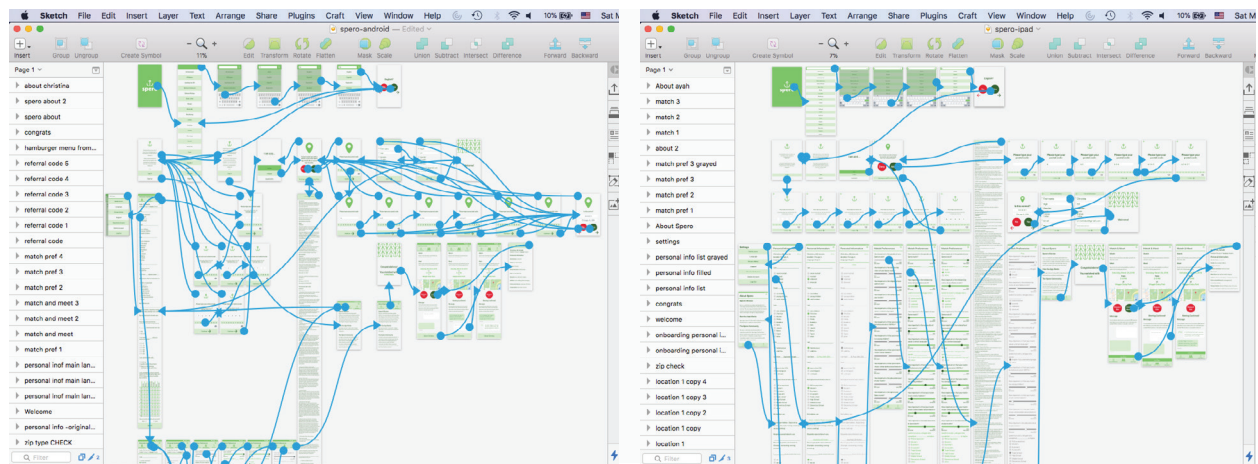
Figure 50; Sketch screen shots
Android (L) & iPad (R)

APP DEMOS + PROCESS

The app demo videos showcase a match scenario of persona-based retiree, Christina (iPad), matching with persona-based refugee, Ayah (mobile Android). I built the screens using Bohemian Coding's Sketch software *(Figure 50)*, the industry standard for user interface design; and, by using the Craft plugin, I synced the screens with designated swipe gestures to the prototyping tool, InVision. I then screen-recorded the user journeys with Apple's QuickTime software and used the VLC media player app to loop the demonstration videos *(Figure 49)* on the Android and iPad for the exhibition.

UX SKETCHES

Before prototyping the app, I sketched user journeys and potential scenarios *(Figures 51–53)* to help identify possible gaps in the app. I wireframed the content and flow of the app to establish a basic structure.
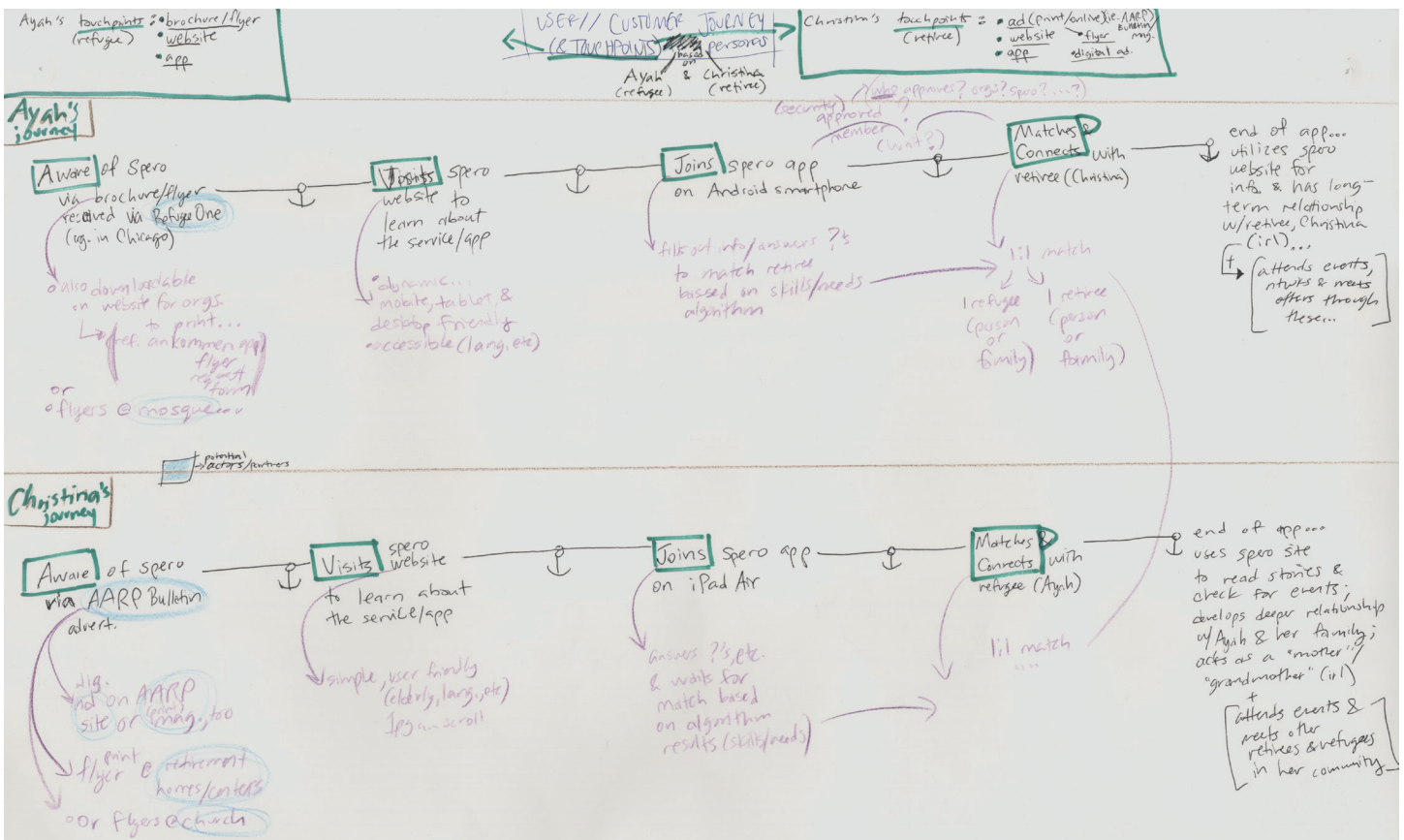
Figure 51

UX SKETCHES
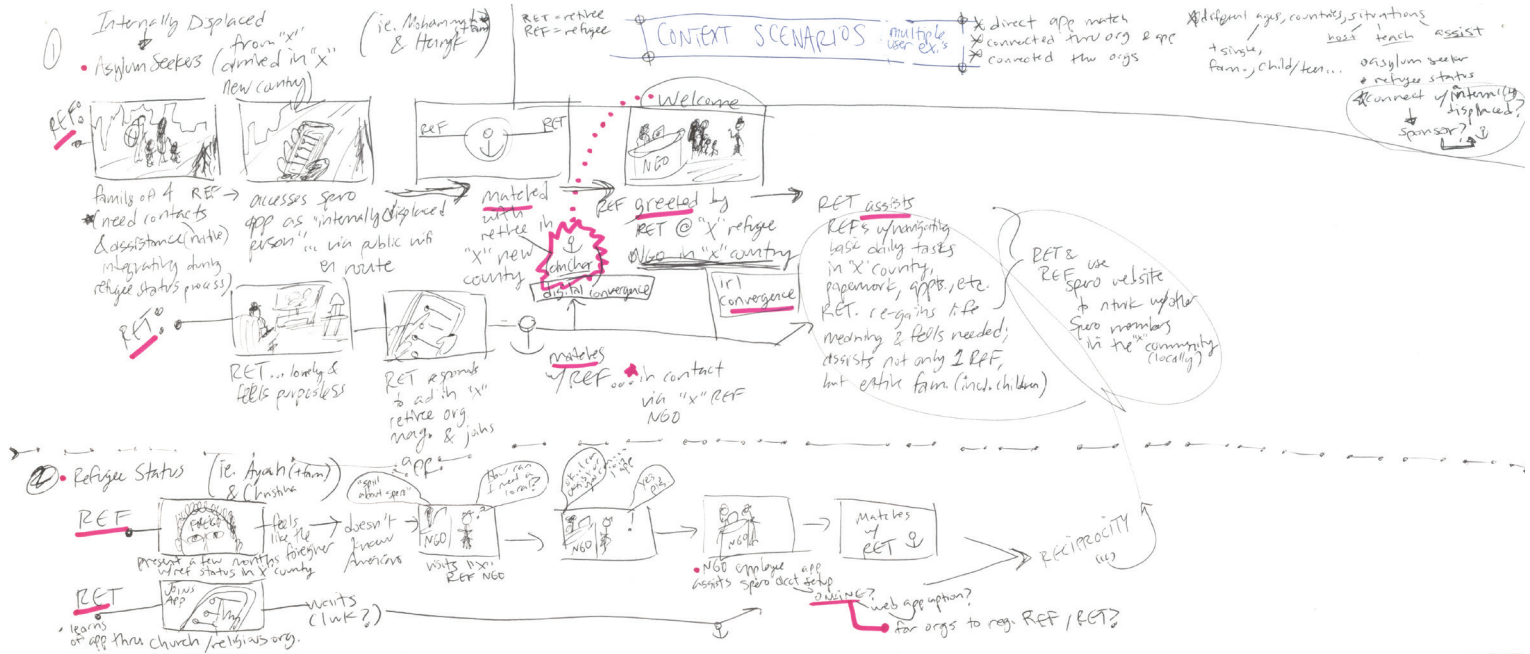
Figure 52

Figure 53

PAPER PROTOTYPING

After I wireframed a basic structure for the app, I used paper prototypes *(Figure 54)* to test the interface

icons, graphics, and navigation with my M.F.A. design peers and friends in order to determine what

features the app might lack.
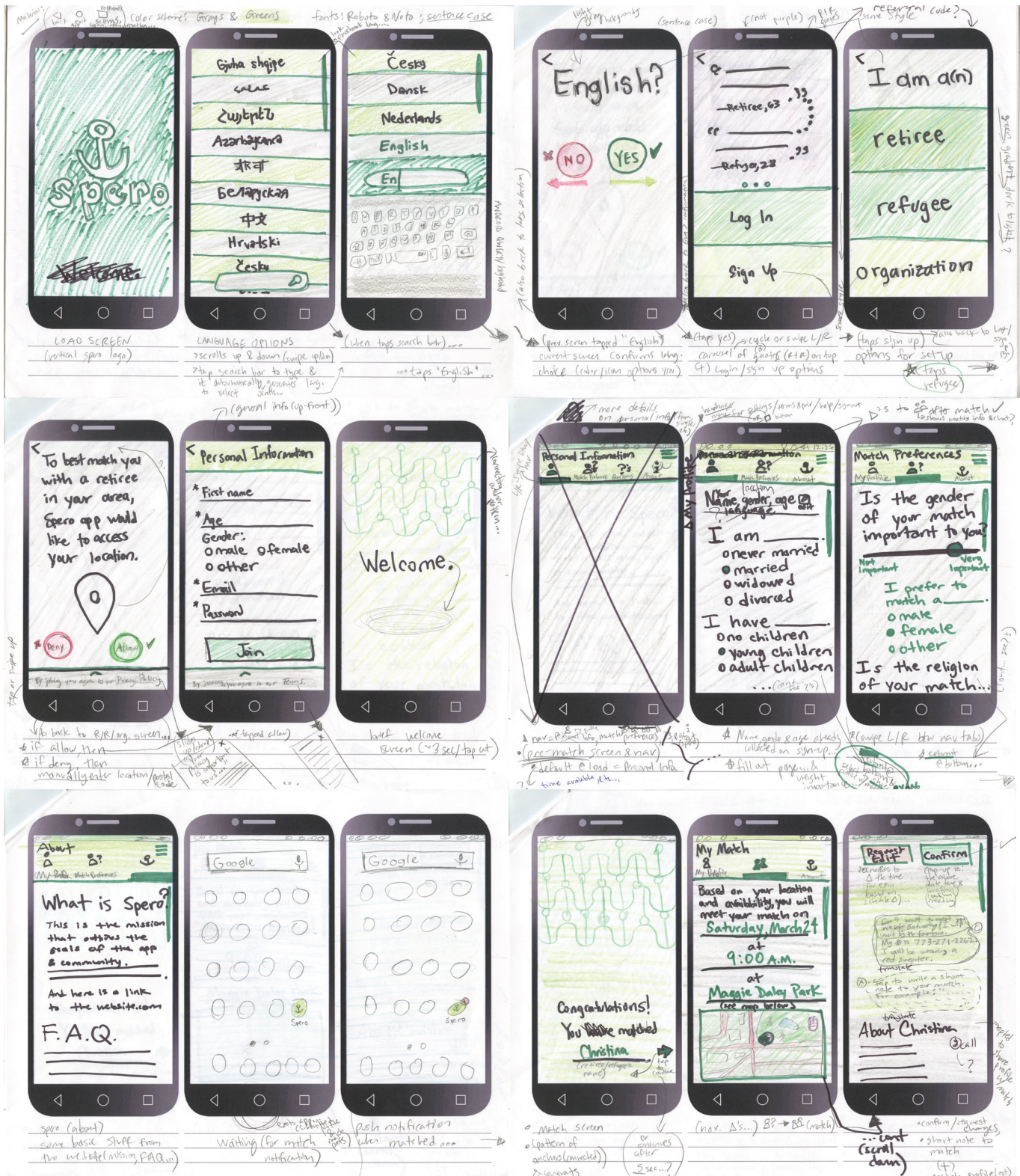
Figure 54

APP SCREENS

I built screens *(Figure 55)* after I gathered feedback from the paper prototypes and added features like the referral code while on-boarding in the app. The screens below are selections from the Spero mobile Android app. The main differences in the visual interfaces of the Android (material) and iOS are the navigation and fonts; I complied with OS standards by using San Francisco for iOS and Roboto for material design.

Figure 55

SURVEY DESIGN
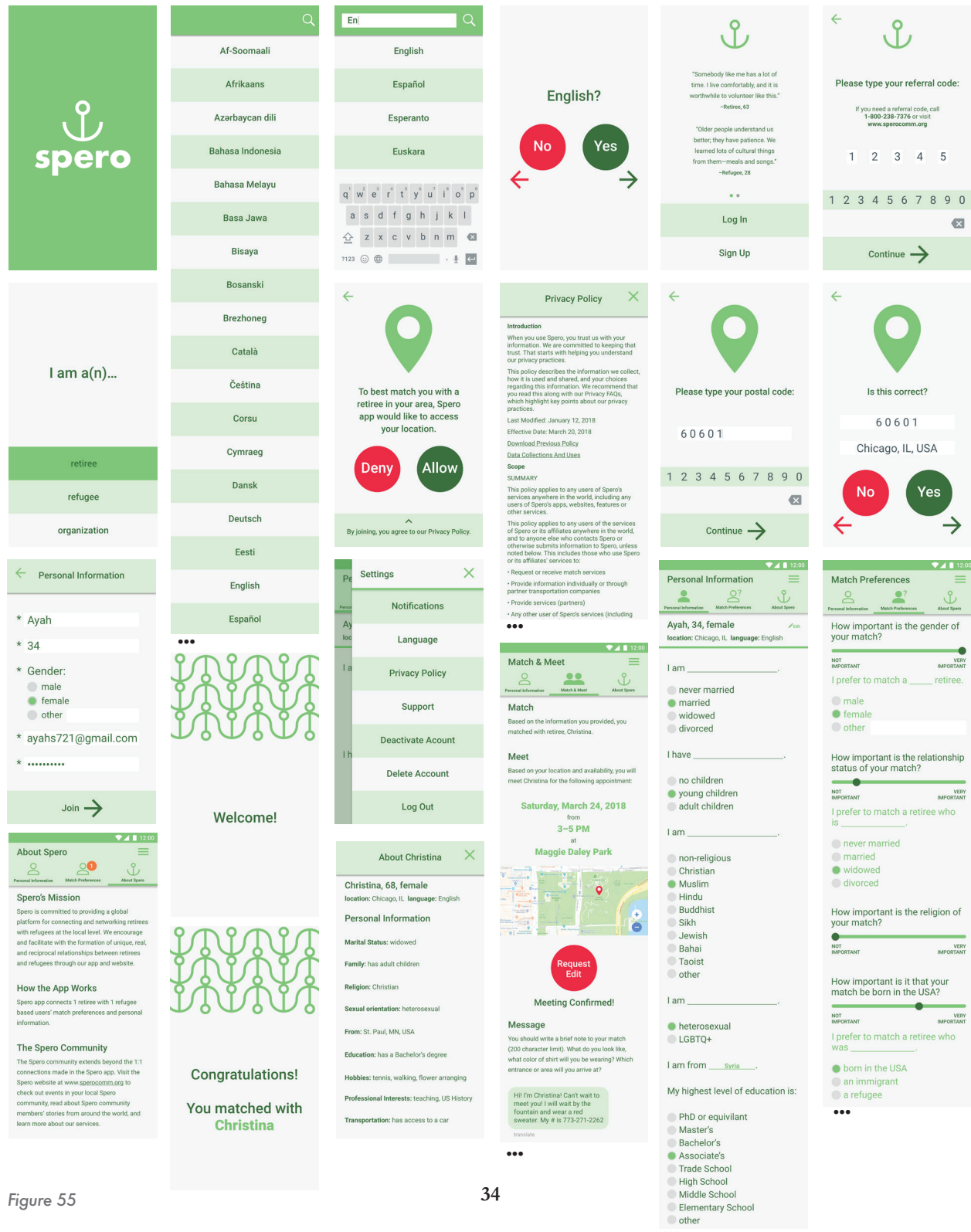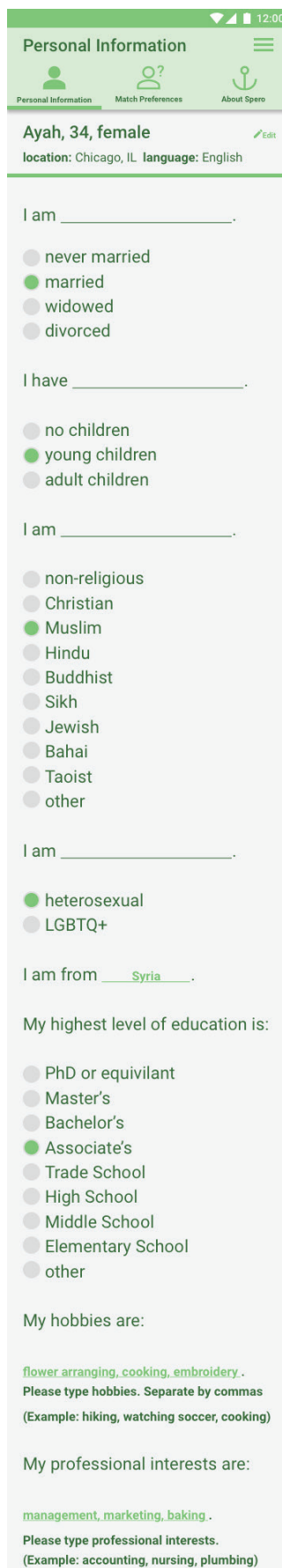
I downloaded and examined dating apps like OKCupid and Coffee Meets Bagel to benchmark how other matching services phrase and weigh questions. A matching algorithm would theoretically be developed to accommodate preferences and match people based on their responses to the in-app surveys *(Figure 56)*.

Figure 56

35

MATCH SCENARIO

The following four pages *(Figures 57–60)* show survey results from an in-app match scenario of persona-based users, Ayah (refugee) and Christina (retiree).

The surveys in the "Personal Information" and "Match Preferences" sections of the app aim to provide answers to generate the best match scenarios. I originally considered more specific questions like dietary restrictions and career goals, but I narrowed the questions down to address major concerns that might arise for the users. For example, perhaps a female only wants to match with a female based on her religious customs. Maybe an LGBTQ+ person has fled a country for persecution and fear for their life, and they only want to be matched with a retiree from the LGBTQ+ community. Maybe a person is homophobic and joins the service—the scales used to denote preference could prevent a failed match from forming, as the questions are designed to eliminate possibilities of matches forming when strong preferences are specified as *very important* in "Match Preferences."

ANDROID MOBILE APP SURVEY DESIGN

persona-based refugee, Ayah's personal information

Figure 57

**ANDROID MOBILE APP
SURVEY DESIGN**

persona-based refugee,

Ayah's match preferences

Match Preferences

👤 Personal Information 👤? Match Preferences ⚓ About Spero

How important is the gender of your match?
NOT IMPORTANT — VERY IMPORTANT

I prefer to match a _____ retiree.

⚪ male
🟢 female
⚪ other _____

How important is the relationship status of your match?
NOT IMPORTANT — VERY IMPORTANT

I prefer to match a retiree who is _____.

⚪ never married
⚪ married
🟢 widowed
⚪ divorced

How important is the religion of your match?
NOT IMPORTANT — VERY IMPORTANT

How important is it that your match be born in the USA?
NOT IMPORTANT — VERY IMPORTANT

I prefer to match a retiree who was _____.

🟢 born in the USA
⚪ an immigrant
⚪ a refugee

How important is it that your match speak a certain language?
NOT IMPORTANT — VERY IMPORTANT

How important is it that your match be straight or LGBTQ+?
NOT IMPORTANT — VERY IMPORTANT

How important is it that your match shares similar hobbies?
NOT IMPORTANT — VERY IMPORTANT

How important is it that your match shares similar professional interests?
NOT IMPORTANT — VERY IMPORTANT

How important is the education level of your match?
NOT IMPORTANT — VERY IMPORTANT

I prefer to match a retiree who completed _____ or higher.

⚪ PhD or equivilant
⚪ Master's
⚪ Bachelor's
🟢 Associate's
⚪ Trade School
⚪ High School
⚪ Middle School
⚪ Elementary School
⚪ other

How important is the age of your match?
NOT IMPORTANT — VERY IMPORTANT

Submit

Figure 58

persona-based retiree, Christina's

personal information

Personal Information

Christina, 68, female   ✏ Edit
location: Chicago, IL
language: English

I am _____ .

- never married
- ● widowed
- married
- divorced

I have _____ .

- no children
- young children
- ● adult children

I am _____ .

- non-religious
- ● Christian
- Muslim
- Hindu
- Buddhist
- Sikh
- Jewish
- Bahai
- Taoist
- other

I am _____ .

- ● heterosexual
- LGBTQ+

I am from ____ St. Paul, MN, USA ____ .

I was _____ .

- ● born in the USA
- an immigrant
- a refugee

My highest level of education is:

- PhD or equivilant
- ● Master's
- Bachelor's
- Associate's
- Trade school
- High School
- Middle School
- Elementary School
- other

My hobbies are:

____ tennis, walking, flower arranging ____ .
Please type hobbies. Separate by commas. (Example: hiking, watching soccer, cooking)
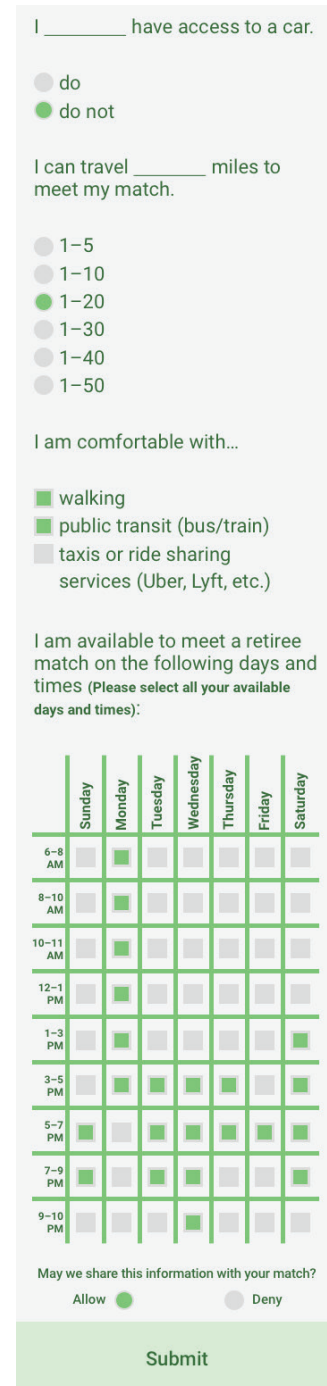
My professional interests are:

_____ teaching, US History _____ .
Please type professional interests. (Example: accounting, nursing, plumbing)

I _____ have access to a car.

- ● do
- do not

I can travel _____ miles to meet up with my match.

- 1–5
- 1–10
- 1–20
- ● 1–30
- 1–40
- 1–50

I am comfortable with...

- ■ walking
- public transit (bus/train)
- taxis or ride sharing services (Uber, Lyft, etc.)

I am available to meet a retiree match on the following days and times (Please select all your available days and times):

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
6–8 AM		■		■	■		■
8–10 AM		■	■	■	■		■
10–11 AM		■	■	■	■	■	■
12–1 PM		■	■	■	■	■	■
1–3 PM	■	■	■	■	■	■	■
3–5 PM	■	■	■	■	■	■	■
5–7 PM		■	■	■	■		■
7–9 PM		■	■	■	■	■	■
9–10 PM			■		■		

May we share this information with your match?

Allow ●   ○ Deny

Submit

Personal Information | Match Preferences | About Spero

Figure 59

iOS iPAD APP
SURVEY DESIGN

persona-based retiree,

Christina's match preferences

Match Preferences

How important is the gender of your Spero match?

NOT IMPORTANT — VERY IMPORTANT

I prefer to match a _____ refugee.

- male
- ● female
- other _____

How important is the relationship status of your Spero match?

NOT IMPORTANT — VERY IMPORTANT

I prefer to match a refugee who is _____.

- never married
- ● married
- widowed
- divorced

How important is the religion of your Spero match?

NOT IMPORTANT — VERY IMPORTANT

How important is the nationality of your match?

NOT IMPORTANT — VERY IMPORTANT

How important is it that your match speak a certain language?
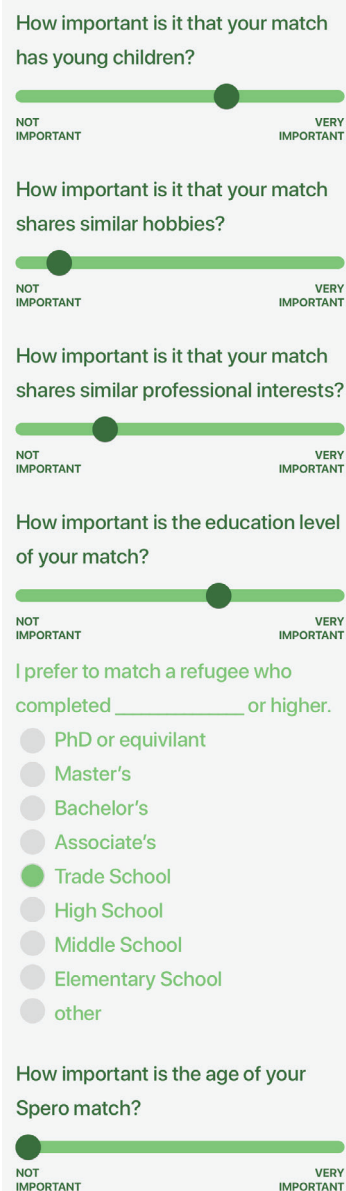
NOT IMPORTANT — VERY IMPORTANT

I prefer to match a refugee who speaks _____.

- ● English *(my selected language)
- other _____

How important is it that your match be heterosexual or LGBTQ+?

NOT IMPORTANT — VERY IMPORTANT

How important is it that your match has young children?

NOT IMPORTANT — VERY IMPORTANT

How important is it that your match shares similar hobbies?

NOT IMPORTANT — VERY IMPORTANT

How important is it that your match shares similar professional interests?

NOT IMPORTANT — VERY IMPORTANT

How important is the education level of your match?

NOT IMPORTANT — VERY IMPORTANT

I prefer to match a refugee who completed _____ or higher.

- PhD or equivilant
- Master's
- Bachelor's
- Associate's
- ● Trade School
- High School
- Middle School
- Elementary School
- other

How important is the age of your Spero match?

NOT IMPORTANT — VERY IMPORTANT

Submit

Personal Information | Match Preferences | About Spero

Figure 60
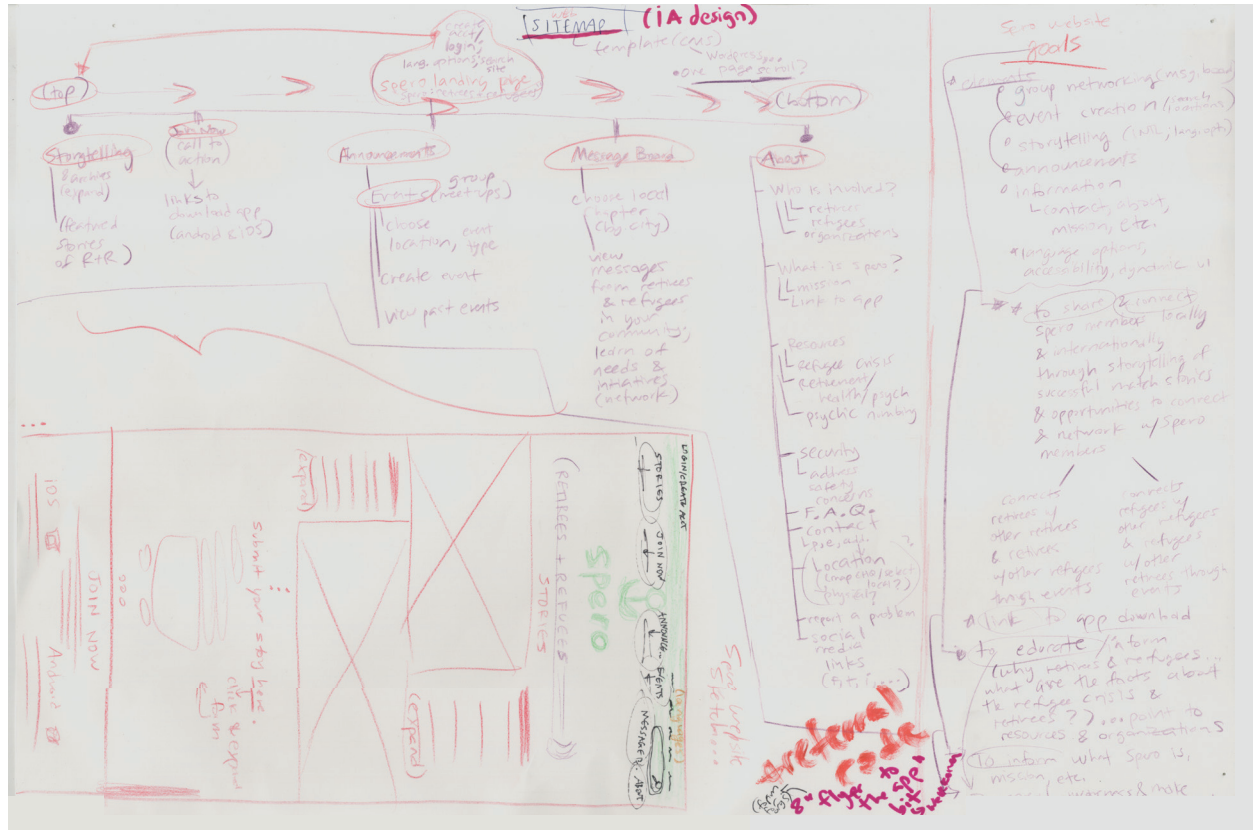
Figure 61

WEBSITE CONTENT

Before I chose a design style or template, I sketched a quick informa-
tion architecture map *(Figure 61)* to organize the website content. The
content is based on Spero's goal of providing a global platform for
sharing stories of retirees and refugees around the world, sharing and
creating events, and participating in member-only message boards.
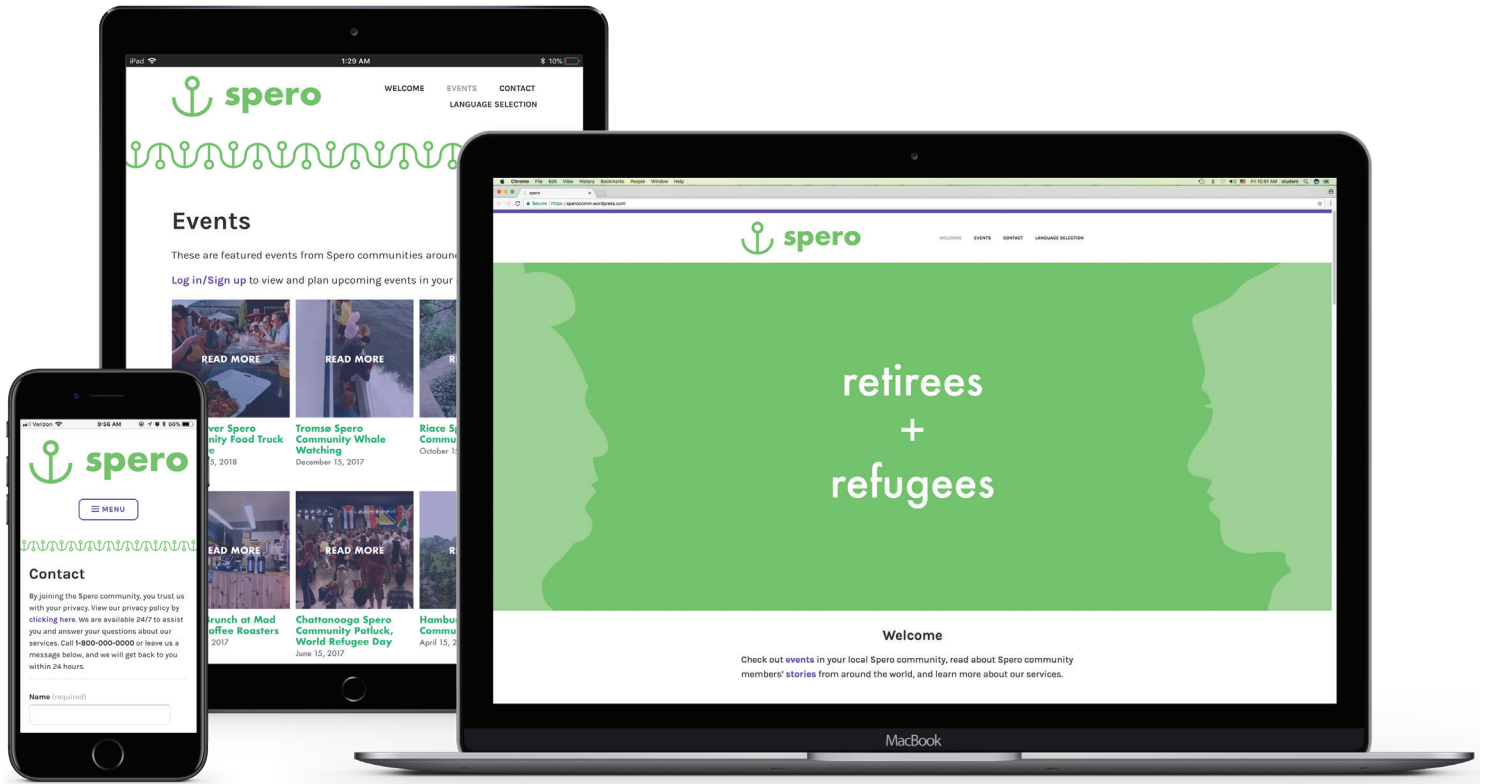
Figure 62   *website link: sperocomm.wordpress.com*

WEBSITE DESIGN

The website is responsive and meets the needs of the content described in *Figure 61* on the previous page. The website mock-up *(Figure 62)* is live online and employs the Karuna Wordpress template. I adapted the colors and imagery to match the Spero brand, but the template was pre-built and can be accessed at wordpress.com/theme/karuna.

Figure 63

PROCESS BOOK AT THE GALLERY EXHIBITION

I highlighted my design process in the book pictured above *(Figure 63)*. During the exhibition opening, people paused to read the chunked text and look through the sketches and diagrams that I made as I created Spero. This book brought pedagogic value to the exhibit display while demystifying the user experience, branding, and design processes for the general public. Throughout the duration of the show, I observed art and design students, as well as people from outside the art and design community, as they attentively looked over every page of this book.

AARP MOCK-UP SPERO AD

This mock-up advertisement for AARP magazine *(Figure 64)* is a possible dissemination of Spero's services. Advertisements and flyers like this *(Figure 65)* would theoretically be distributed by diverse religious groups and refugee and retiree centers around the world.

Figure 64

retirees + refugees

JOIN TODAY!

Spero: a welcoming community for retirees & refugees

Match & Meet
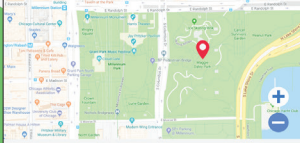
Match

Based on the information you provided, you matched with retiree, Ayah.

Meet

Based on your location and availability, you will meet Ayah for the following appointment:

**Saturday, March 24, 2018
from
3–5 PM
at
Maggie Daley Park**

Request Edit

Meeting Confirmed!

Message

You should write a brief note to your match (200 character limit). What do you look like, what color of shirt will you be wearing? Which entrance or area will you arrive at?

✎ Edit Hi! I'm Christina! Can't wait to meet you! I will wait by the fountain and wear a red sweater. My # is 773-271-2262

I am Ayah. Happy to meet you. I will wear a yellow dress. See you there. My phone number is 773-361-3251

translate

˄ About Ayah

Personal Information · Match & Meet · About Spero

Looking for a worthwhile way to spend your time while helping others?

• Match and meet up with a refugee in your local area by joining the Spero community today!

• Download the **Spero app** from the app store.

• Visit **sperocomm.org** for more information.

• For your security, we have a simple screening process and **referral code** required to join the system.

• Please call **1-800-000-0000** today to get your referral code so you can join the app and get matched with a refugee in your area! If you don't have access to a tablet or smart phone, we can assist you.

"Since losing my husband last year and retiring from teaching a few years ago, I have a lot of time on my hands and live comfortably. My adult children live out of town, so it has been worthwhile for me to spend time with Ayah and her family."
Christina, retiree, Spero member

spero

ASSISTANCE

As noted in this ad, users without access to a smart device could theoretically seek assistance with getting matched from Spero partner organizations like AARP.

Figure 65

43

DISPLAY WALL SKETCHES

I sketched more than fifty thumbnails *(Figure 66)* of what the Spero exhibition gallery wall space might look like. In the end, I combined three of the concepts into one, iterated the mock-up based on peer feedback, tested type sizes from a distance, and executed the final adhesive vinyl graphic design.

Figure 66   44

DISPLAY WALL MOCK-UP

Figure 67

SPERO'S MISSION

Spero is committed to providing a global platform for connecting and networking retirees with refugees at the local level. We encourage and facilitate with the formation of unique, real, and reciprocal relationships between retirees and refugees through our app and website.

THE SPERO COMMUNITY

The Spero community extends beyond the 1:1 connections made in the Spero app. Visit the Spero website at sperocomm.org to check out events in your local Spero community, read about Spero community members' stories from around the world, and learn more about our services.

Figure 68

DISPLAY INFORMATION GRAPHIC

With the assistance of native speakers' translations in Arabic, Spanish, and Korean, as referenced in the *Acknowledgments* section of this paper, this display *(Figures 67 & 68)* introduces Spero to the public as a call-to-action for potential users to join. The display, with interfaces included, would be placed at retiree and refugee centers around the world. The adhesive vinyl wall graphic has one statistic to represent retirees and one to represent refugees, one quote from both people featured here, based on personas, a description of Spero, and a quote from Mother Teresa that addresses "psychic numbing," as psychologist Paul Slovic describes in his research on decision-making and why people can only respond to "the one" and not the masses (Slovic, 2007).

STATISTIC REPRESENTING RETIREES ON THE WALL GRAPHIC

According to the demographic shifts estimated by the Population Reference Bureau's 2016 report, **the number of Americans ages 65 and older is projected to more than double from 46 million today to over 98 million by 2060.** The 65-and-older age group's share of the total population will rise to nearly 24 percent from 15 percent.

미국인구조사국 (Population Reference Bureau)의 2016 년 보고서에서 예측한 인구통계 학적 변화에 따르면, **65 세 이상 미국인의 수는 현재 4,600 만 명에서 2060 년에는 9,800 만 명으로 두 배 이상 증가할 것으로 예상됩니다.** 65 세 이상의 연령군 총 인구는 15 %에서 거의 24 %로 증가 할 것입니다.

بالنسبة للتحولات الديمغرافية التي يقدرها تقرير المكتب المرجعي للسكان لعام 2016، من المتوقع أن يزيد عدد الأمريكيين الذين يبلغون من العمر 65 سنة فما فوق إلى أكثر من الضعف من 46 مليون اليوم إلى أكثر من 98 مليون بحلول عام 2060. وسترتفع حصة الفئة العمرية 65 سنة فأكثر من مجموع السكان إلى ما يقرب من 24 في المائة من 15 في المائة.

Según los cambios demográficos estimados por el informe 2016 del Population Reference Bureau, se proyecta que **la cantidad de estadounidenses de 65 años o más aumentará a más del doble, pasando de 46 millones en la actualidad a más de 98 millones en 2060.** La porción poblacional de 65 años o más aumentará de 15 por ciento a 24 por ciento.

QUOTE REPRESENTING PERSONA-BASED RETIREE, CHRISTINA, ON THE WALL GRAPHIC

"Since losing my husband last year and retiring from teaching a few years ago, I have a lot of time on my hands and live comfortably. My adult children live out of town, so it has been worthwhile for me to spend time with Ayah and her family."

"작년에 남편을 잃고 몇 년 전에 교직을 내려놓은 뒤로 나는 많은 여유 시간을 가지고 편안하게 살고 있다. 어른이 된 자식들은 이미 고향을 떠나 살고 있기 때문에, 아이야(Ayah)와 그녀의 가족들과 함께 보내는 시간을 더욱 가치있게 여길 수 있었다."

منذ فقدان زوجي العام الماضي والتقاعد من التدريس قبل بضع سنوات، لدي الكثير من الوقت لأعيش بشكل مريح. أطفالي الكبار يعيش خارج المدينة، لذلك كان من المفيد بالنسبة لي قضاء بعض الوقت مع آية وأسرتها.

"Desde que perdí a mi esposo el año pasado y me retiré de la docencia hace unos años, tengo mucho tiempo libre y vivo cómodamente. Mis hijos adultos viven fuera de la ciudad, por lo que valió la pena pasar tiempo con Ayah y su familia".

STATISTIC REPRESENTING REFUGEES ON THE WALL GRAPHIC

According to the UN Refugee Agency's annual Global Trends study, **on average, 20 people are displaced every minute of the day.** Over the past two decades, the global population of forcibly displaced people has grown substantially from 33.9 million in 1997 to 65.6 million in 2016, and it remains at a record high.

유엔 난민기구 (UN Refugee Agency)의 연례 세계 동향 연구(Global Trends Study)에 따르면 **하루에 평균 20 명의 사람이 매 분마다 이주하고 있습니다.** 지난 20 년간 전 세계 강제 실향민 인구는 1997 년 3,390 만 명에서 2016 년 6,560 만 명으로 크게 증가했으며 사상 최고치를 유지하고 있습니다.

ووفقا للدراسة annual UN Refugee Agency's Global Trend، في المتوسط، يتم تهجير 20 شخصا كل دقيقة يومًا. وعلى مدى العقدين الماضيين، زاد عدد سكان العالم من المشردين قسرا بشكل كبير من 33.9 مليون في عام 1997 إلى 65.6 مليون في عام 2016، ولا يزال عند مستوى قياسي.

Según el estudio anual Global Trends de la Agencia de las Naciones Unidas para los Refugiados, **en promedio, 20 personas son desplazadas cada minuto.** En las últimas dos décadas, la población mundial de personas desplazadas a la fuerza ha aumentado sustancialmente de 33,9 millones en 1997 a 65,6 millones en 2016, y se mantiene en un nivel récord.

QUOTE REPRESENTING PERSONA-BASED REFUGEE, AYAH, ON THE WALL GRAPHIC

"Older people seem to understand our needs as refugees in a better way; they have a lot of patience and life experience. We have exchanged lots of cultural things over meals, and Christina has become part of our family. She even comes to my children's sporting events and birthday parties."

"고령자들은 난민들의 필요를 더 잘 이해하는 것 같다. 그들은 인내심이 많고, 삶의 경험 또한 많다. 우리는 함께 식사 하며 풍부한 문화적 교류를 했고, 크리스티나(Christina)는 우리 가족과 같은 사람이 되었다. 그녀는 우리 아이들의 운동 경기나 생일 파티에도 함께 하고 있다."

يبدو أن كبار السن يفهمون احتياجاتنا كلاجئين بطريقة أفضل؛ لديهم الكثير من الصبر وتجربة الحياة. لقد تبادلنا الكثير من الأشياء الثقافية على وجبات الطعام، وأصبحت كريستينا جزءًا من عائلتنا، حتى أنها تأتي إلى الأحداث الرياضية لأطفالي وأعياد الميلاد.

"Las personas mayores parecen comprender nuestras necesidades como refugiados de una mejor manera; ellos tienen mucha paciencia y experiencia de vida. Hemos intercambiado muchas cosas culturales durante comidas, y Christina se ha convertido en parte de nuestra familia. Incluso viene a los eventos deportivos de mis hijos y a las fiestas de cumpleaños".
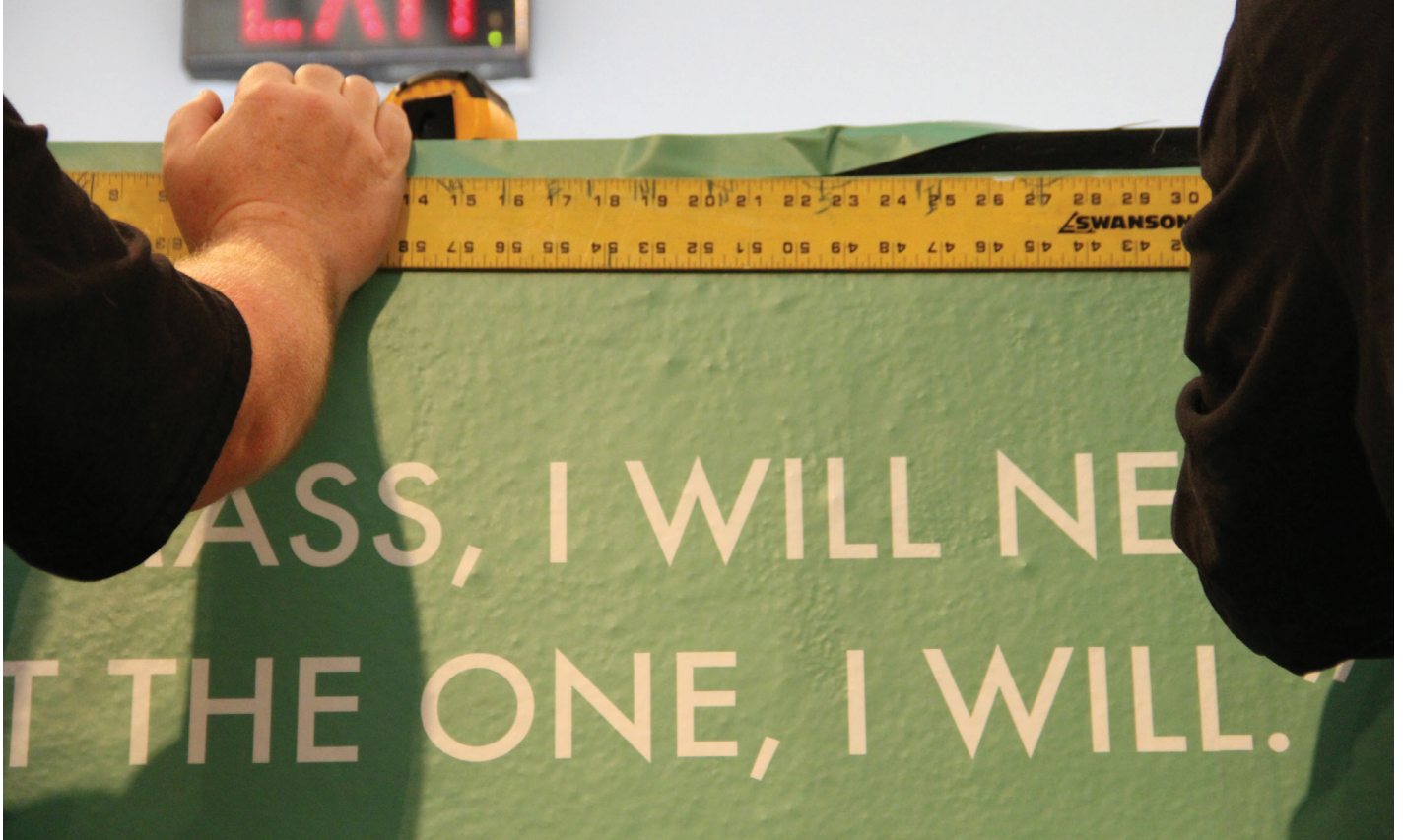
Figure 69

THE INSTALLATION

I planned for staff from *Signs By Tomorrow*, a vinyl print and installation company in Gainesville, FL, to print and install my adhesive vinyl wall infographic. *Figure 69* shows the installation process as they trimmed the bleed around the edges of the vinyl. I do not specialize in printing vinyl or have access to print such a large-scale piece on my own, nor do I have the skills required to install it. I hired this local company for their expertise, and I executed the design. I was pleased with the results, despite minor imperfections on the gallery wall. After the exhibition, I was able to easily remove the piece as one large graphic and save it by placing paper on the back and rolling it up.

Figure 70, reception guests

Figure 71, at the reception with studiomates

ABOUT THE EXHIBITION

An adhesive vinyl infographic—with content in Arabic, Spanish, Korean, and English—covered the curved gallery wall. Two pedestals, one supporting an iPad Air and one supporting an iPad Air and an Android smartphone, exhibited the website and app demos of a retiree and refugee Spero app match scenario. To teach the public about the design process and user experience research, my process book was on the third pedestal. The Spero installation was part of the MFA group 1 exhibition, which was from March 20–30. The reception was Friday, March 23, 2018 from 7–9 p.m. in the University Galleries at the University of Florida *(Figures 70 & 71)*.

PERSONAL REMARKS

I cannot submit a report for this project without bringing up the inherent political climate that would play host to this system around the world, namely as President Trump occupies the White House and continues to spread and foster an irrational fear of refugees (Altman, 2017).

Although the mission and purpose of this project is about people and not about politics, the system is naturally limited to legally documented refugees and asylum seekers. There are systems and networks in place around the world that provide support to undocumented immigrants; but a service like Spero, that intentionally publicizes its community online, would prove to be dangerous and could be abused by U.S. Immigration and Customs Enforcement officers, for example, to target those undocumented immigrants for deportation in this political climate.

There is authentic relational value in the face-to-face interactions and Spero community meet-ups that could be facilitated by the website events portal. Relationships give people meaning, in that they feel a sense of belonging and that they are valued and needed as a result of being part of a relationship or community. A plethora of apps, such as *INTEGREAT* and *Ankommen*, have been released in the last few years around the world to assist refugees with local information gathering and language knowledge, but very few, if any, have attempted to form communities built on such reciprocity as Spero aims to do with retirees and refugees.

I learned so much throughout this project, not only about Spero's potential users and their needs, but also about the technical skills required to produce the app interface designs and how to design for large surfaces with the Spero exhibition wall graphic. I plan to share my findings as a template to guide and assist my future students as they pursue their passions through design projects. I plan to find avenues to disseminate this type of in-depth design process and research to the design community by presenting my work at service design, social design, and human-centered design conferences.

My work in the future will likely deal with Korean studies, as I hope to continue to visit Korea and foster my design relationships there to form a faculty-led study abroad trip to Seoul for my students. Lastly, I plan propose the Spero system to stakeholder organizations after running tests of the services with focus groups in a sanctuary city.

- *asylum seeker*, in this paper, refers to a person who is in the process of seeking asylum, or sanctuary, in another country that is not his/her/their own due to life-threatening circumstances in the country of origin due to persecution, war, or violence (United Nations High Commissioner for Refugees, 2018).

- *refugee*, in this paper, refers to a person who has fled his/her/their country of origin as a result of life-threatening circumstances in a country of origin, and who has sought asylum in another country and received legal refugee status from said country. According to the United Nations High Commissioner for Refugees, a refugee is "has a well-founded fear of persecution for reasons of race, religion, nationality, political opinion or membership in a particular social group" (United Nations High Commissioner for Refugees, 2018).

- *religious group*, in this paper, refers to a formal collective of people that come together under a corporate religion such as, but not limited to, churches, mosques, and temples located around the world

- *retiree*, in this paper, refers to a person who has, by choice or force, reached retirement in that he/she/they does not work or works minimally and no longer practices his/her/their profession

- *retiree and refugee organizations*, in this paper, refers to NGO's (non-government organizations) and for-profit organizations that interface directly with retirees and refugees around the world

Altman, A. (2017, February 9). How President Trump Uses Fear. Retrieved from http://time.com/4665755/donald-trump-fear/

Barros, A. C., Leitão, R., & Ribeiro, J. (2014, February). Design and evaluation of a mobile user interface for older adults: Navigation, interaction and visual design recommendations. *Procedia Computer Science*, *27*, 369-378. doi:10.1016/j.procs.2014.02.041

Catholic Charities of Tennessee, Inc. (2013, May). Refugee terminology. Retrieved from http://www.cctenn.org/pdffiles/Refugee%20Terminology%20Glossary%2005%2013.pdf

Díaz-Bossini, J., & Moreno, L. (2014, February). Accessibility to mobile interfaces for older people. *Procedia Computer Science*, *27*, 57-66. doi:10.1016/j.procs.2014.02.008

Dunn, J. (2016, August 22). There's no hope of anyone catching up to Android and iOS. Retrieved from http://www.businessinsider.com/smartphone-market-share-android-ios-windows-blackberry-2016-8

Gopalakrishnan, M. (2016, August 22). German volunteer finds his calling helping refugees. Retrieved from http://www.dw.com/en/german-volunteer-finds-his-calling-helping-refugees/a-19456138

Harada S., Sato D., Takagi H., Asakawa C. (2013) Characteristics of elderly user behavior on mobile multi-touch devices.In: Kotzé P., Marsden G., Lindgaard G., Wesson J., Winckler M. (eds) Human-Computer Interaction – INTERACT 2013. INTERACT 2013. Lecture Notes in Computer Science, vol 8120. Springer, Berlin, Heidelberg. Retrieved from https://pdfs.semanticscholar.org/6cef/1c61db1c953ab64cdde33ef8ff951a2f4af5.pdf

Heaven, B., Brown, L. J., White, M., Errington, L., Mathers, J. C., & Moffatt, S. (2013). Supporting well-being in retirement through meaningful social roles: Systematic review of intervention studies. *The Milbank Quarterly, 91* (2), 222–287. http://doi.org/10.1111/milq.12013

International Rescue Committee. (2015, September 4). What's in my bag? Retrieved from https://medium.com/uprooted/what-s-in-my-bag-758d435f6e62

Jungbluth, S. (2017, February). *"Smartphone refugees" mobility, power regimes, and the impact of digital technologies* (Master's thesis, University of Tampere, Tampere, Finland). Retrieved from https://tampub.uta.fi/bitstream/handle/10024/100787/GRADU-1490004757.pdf?sequence=1

Ludden, J. (2011, January 17). Retirees lend a hand to refugees in Fargo, N.D. Retrieved from http://www.npr.org/2011/01/17/132705619/retirees-lend-a-hand-to-refugees-in-fargo-n-d

Lupton, E. (2017). *Design is storytelling*. New York, NY: Cooper Hewitt, Smithsonian Design Museum.

Marsh, S. (2017, November 27). 'I miss my family. Angelika's like an aunt.' The older Germans taking in Syrian refugees. Retrieved from https://www.theguardian.com/society/2017/nov/15/miss-family-older-germans-taking-in-syrian-refugees

Mather, M. (2016, January 13). Fact sheet: Aging in the United States – Population Reference Bureau. Retrieved from https://www.prb.org/aging-unitedstates-fact-sheet/

Milne, D. (2013). *The psychology of retirement: Coping with the transition from work*. Chichester, West Sussex, UK: Wiley-Blackwell.

Schreieck, M., Zitzelsberger, J., Siepe, S., Wiesche, M., & Krcmar, H. (2017). Supporting refugees in every day life–Intercultural design evaluation of an application for local information. In *Twenty First Pacific Asia Conference on Information Systems* (p.1–12). Langkawi, Malaysia: Intercultural Design Evaluation.

Slovic, P. (2007, April). If I look at the mass I will never act: Psychic numbing and genocide. *Judgment and Decision Making, 2* (2), 79-95. Retrieved from http://journal.sjdm.org/7303a/jdm7303a.htm

Tang, J. (2017, April 6). Retired Canadians roll up their sleeves to help Syrian refugees. Retrieved from https://beta.theglobeandmail.com/report-on-business/retirees-roll-up-their-sleeves-to-help-refugees/article32349457/?ref=www.theglobeandmail.com&

United Nations High Commissioner for Refugees. (2018). Forced displacement worldwide at its highest in decades. Retrieved from http://www.unhcr.org/afr/news/stories/2017/6/5941561f4/forced-displacement-worldwide-its-highest-decades.html

Von Schwerin-High, F. (2017, November). Refugees, retirees, and revised realities in recent German works of fiction. Paper presented at Pacific Ancient and Modern Language Association 115th Annual Conference, Honolulu, Hawaii.

AARP Foundation. (2017, August 11). Experience Corps. Retrieved from http://www.aarp.org/experience-corps/

AD Council. (2016). Embrace Refugees. Retrieved from http://embracerefugees.org/

Adiseshiah, E. G. (2017, July 4). UX design thinking from a senior citizen's perspective–usability geek. Retrieved from https://usabilitygeek.com/ux-design-thinking-senior-citizen-user/

Allen, M., Matthew, S., & Boland, M. J. (2004, Fall). Working with immigrant and refugee populations: Issues and Hmong case study. *Library Trends*, 300+. Retrieved from Academic OneFile, http://link.galegroup.com/apps/doc/A129015983/AONE?u=gain40375&sid=AONE& xid=cf968388

Amnesty International. (2016). The Refugee Nation. Retrieved from http://therefugeenation.org/

Amnesty International. (2017, November 6). What's the difference between a refugee and an asylum seeker? Retrieved from https://www.amnesty.org.au/refugee-and-an-asylum-seeker-difference/

Amos, D. (2016, October 30). For Syrian refugees in Connecticut, A helping hand from private volunteers. Retrieved from http://www.npr.org/sections/parallels/2016/10/30/499509208/for-syrian-refugees-in-connecticut-a-helping-hand-from-private-volunteers

Anderson, M., & Perrin, A. (2017, May 17). Tech adoption climbs among older adults. Retrieved from http://www.pewinternet.org/2017/05/17/tech-adoption-climbs-among-older-adults/

Anderson, M., & Perrin, A. (2017, May 23). Think older people are technophobes? Think again. Retrieved from https://www.weforum.org/agenda/2017/05/think-older-people-are-technophobes-think-again

Anderson, O. G. (2016, November). 2016 Technology trends among mid-life and older Americans. Retrieved from https://www.aarp.org/content/dam/aarp/research/surveys_statistics/general/2016/2016-technology-trends-older-americans.doi.10.26419%252Fres.00140.001.pdf

Anderson, T. (2016, September 13). More seniors are driving Uber and Lyft in retirement. Retrieved from https://www.cnbc.com/2016/09/30/uber-lyft-helps-seniors-cruise-into-retirement.html

Bachoo, D. (2004, Spring). Successful job training for immigrants. *Review of Business*, *25* (2), 51+. Retrieved from http://link.galegroup.com/apps/doc/A119108643/AONE?u=gain40375&sid=AONE&xid=616a281e

Barros, A. C., Leitão, R., & Ribeiro, J. (2014, February). Design and evaluation of a mobile user interface for older adults: Navigation, interaction and visual design recommendations. *Procedia Computer Science*, *27* , 369-378. doi:10.1016/j.procs.2014.02.041

BBC. (2015, September 22). Refugee crisis: Food and phone charging. Retrieved from http://www.bbc.com/news/av/world-europe-34328857/refugee-crisis-food-and-phone-charging-on-turkey-border

Bauman, S. (2016). *Seeking refuge: On the shores of the global refugee crisis*. Chicago, IL: Moody Publishers.

Behnia, B. (2012). Volunteering with Newcomers: The perspectives of Canadian- and foreign-born volunteers. *Canadian journal of nonprofit and social economy research*, *3* (2), 6–23.doi:10.22230/cjnser.2012v3n2a116

Blair, E. (2017, May 5). When Elmo And Big Bird Talk To Refugees. Retrieved from https://www.npr.org/sections/ed/2017/05/05/526775562/when-elmo-and-big-bird-talk-to-refugees

Blitz, B. (2017). Another story: What public opinion data tell us about refugee and humanitarian policy. *Journal on Migration and Human Security*, 5 (2), 379-400. doi:10.14240/jmhs.v5i2.89

Bode, K. (2017, August 18). This app is helping to fund education for refugees. Retrieved from https://www.weforum.org/agenda/2017/08/this-app-is-helping-to-fund-education-for-refugees

Bostian, M., & Howard, D. (2017, October). Thinking mobile first: Health and human services in the digital age. *Policy & Practice*, *75* (5), 6+. Retrieved from http://link.galegroup.com/apps/doc/A513852783/AONE?u=gain40375&sid=AONE&xid=364e5763

Brockett, C. (1978). A hierarchy of human rights. In *1978 Annual Meeting of The American Political Science Association* (p. 1–32). New York, NY: The American Political Science Association.

Budds, D. (2017, October 31). From Ideo.org: 3 Ways designers can help fix the refugee crisis. Retrieved from https://www.fastcodesign.com/90147348/from-ideo-org-3-ways-designers-can-help-fix-the-refugee-crisis

Campbell, H. (2015, July 23). Why senior citizens are flocking to Uber. Retrieved from https://www.forbes.com/sites/harrycampbell/2015/07/23/why-senior-citizens-are-flocking-to-uber/#54d22b4620ae

Campbell, O. (2015, February 5). Designing for the elderly: Ways older people use digital technology differently. Retrieved from https://www.smashingmagazine.com/2015/02/designing-digital-technology-for-the-elderly/

Catholic Charities of Tennessee, Inc. (2013, May). Refugee terminology. Retrieved from http://www.cctenn.org/pdffiles/Refugee%20Terminology%20Glossary%2005%2013.pdf

Chenoweth, J., & Burdick, L. (2001, November). The path to integration: meeting the special needs of refugee elders in resettlement. *Refuge*, 20+. Retrieved from Academic OneFile, http://link.galegroup.com/apps/doc/A86388214/AONE?u=gain40375&sid=AONE&xid=73510ca5

Cervone, B. (2008). President, What Kids Can Do, Purpose Prize winner. Retrieved from https://encore.org/purpose-prize/barbara-cervone/

Child Refugees. (2017). Retrieved from https://www.unicefusa.org/mission/emergencies/child-refugees

Corporation for National & Community Service. (2017). Senior Corps Programs. Retrieved from https://www.nationalservice.gov/programs/senior-corps/senior-corps-programs

Criag, A. (2017, August 9). 19 Things we're dying to redesign. Retrieved from https://www.ideo.com/blog/19-things-were-dying-to-redesign

Darling, N. (2016, October 9). Metaphors help explain tough topics like bias. Retrieved from https://www.psychologytoday.com/blog/thinking-about-kids/201610/metaphors-helpexplain-tough-topics-bias

DeLong, M., & Martinson, B. (2012). *Color and design*. New York, NY: Berg.

Díaz-Bossini, J., & Moreno, L. (2014, February). Accessibility to mobile interfaces for older people. *Procedia Computer Science*, *27*, 57-66. doi:10.1016/j.procs.2014.02.008

Dixon, G. (2017, April 6). Retired Canadians roll up their sleeves to help Syrian refugees. Retrieved from https://beta.theglobeandmail.com/report-on-business/retirees-roll-up-their-sleeves-to-help-refugees/article32349457/?ref=www.theglobeandmail.com&

Dunn, J. (2016, August 22). There's no hope of anyone catching up to Android and iOS. Retrieved from http://www.businessinsider.com/smartphone-market-share-android-ios-windows-blackberry-2016-8

Durrant, A., Kirk, D., Trujillo Pisanty, D., Moncur, W., Orzech, K., Schofield, T., ...Monk, A. (2017). Transitions in digital personhood. *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems - CHI '17*, 6398+. doi:10.1145/3025453.3025913

EdSeed. (2017). Education is a human right. Retrieved from https://edseed.me/

Egan, B. (2017, June 8). Trump travel ban inspired a mobile app to help immigrants and refugees. Retrieved from https://www.forbes.com/sites/bobegan/2017/06/08/trump-travel-ban-inspired-a-mobile-app-to-help-immigrants-and-refugees/#7156ecd15919

Emanuel, G. (2016, December 31). Living in America 101: When refugees arrive, What do they need to learn? Retrieved from http://www.npr.org/sections/ed/2016/12/31/484050992/living-in-america-101-when-refugees-arrive-what-do-they-need-to-learn

Epatko, L. (2015, October 2). Photos: Children are most vulnerable in the refugee crisis. Retrieved from https://www.pbs.org/newshour/world/photos-children-vulnerable-refugee-crisis

Encore.org. (2017). The Encore vision. Retrieved from http://encore.org/who-we-are/encore-org-encore-vision/

European Resettlement Network. (2013). Germany. Retrieved from http://www.resettlement.eu/country/germany

Ferreira, F., Almeida, N., Rosa, A. F., Oliveira, A., Casimiro, J., Silva, S., & Teixeira, A. (2014, February). Elderly centered design for interaction–The case of the S4S medication assistant. *Procedia Computer Science, 27*, 398-408. doi:10.1016/j.procs.2014.02.044

Flaskerud, J. H. (2016). Places of refuge and sanctuary. *Issues in Mental Health Nursing, 38* (4), 368-371. doi:10.1080/01612840.2016.1243743

Florido, A., & Martin, M. (2017, April 9). Churches still figuring out how to protect immigrants and themselves. Retrieved from https://www.npr.org/2017/04/09/523203739/churches-still-figuring-out-how-to-protect-immigrants-and-themselves

Flyer to the Ankommen app. (2017). Retrieved from https://ankommenapp.de/APP/EN/Service/Flyer/flyer-node.html;jsessionid=B377337F8FDE7D4D0F990BEF644E36A6.2_cid286

Freedman, M. (2017, August 3). *Dare to know* [Video file]. Retrieved from https://www.tedxsanfrancisco.com/talk-marc-freedman

Freedman, M. (2012, December 11). Don't leave a legacy; Live one. Retrieved from https://hbr.org/2012/12/dont-leave-a-legacy-live-one

Gallagher, D. (1994). Durable solutions in a new political era. *Journal of International Affairs, 47* (2), 429–450. Retrieved from http://www.jstor.org/stable/24357290

Goodridge, R., Ward, T., Leach, S., & Elawa, C. (2017). Settle is a digital platform that helps refugees coming to Canada by simplifying the process of filling out refugee application forms. Retrieved from http://www.robyngoodridge.com/settle/

Google. (2015). Google Fortune Telling: what does your future look like? Retrieved from http://betagoogle.com/

Gopalakrishnan, M. (2016, August 22). German volunteer finds his calling helping refugees. Retrieved from http://www.dw.com/en/german-volunteer-finds-his-calling-helping-refugees/a-19456138

Gustke, C. (2016, March 11). Making technology easier for older people to use. Retrieved from https://www.nytimes.com/2016/03/12/your-money/making-technology-easier-for-older-people-to-use.html

Grant, H. (2017, March 9). How do I ... offer a room to a refugee? Retrieved from https://www.theguardian.com/world/2015/sep/11/how-do-i-offer-a-room-to-a-refugee

Green, A. (2017, August). The distinction between asylum seekers and refugees. Retrieved from https://www.migrationwatchuk.org/briefing-paper/70

Greve, J. E. (2017, April 26). Refugees in America: By the numbers. Retrieved from http://www.pbs.org/weta/washingtonweek/blog-post/refugees-america-numbers

GSM Association. (2017, August 10). Apps for refugees–Refugees and connectivity. Retrieved from https://www.gsma.com/refugee-connectivity/apps-for-refugees/

GSMA. (2017, February 8). Vodafone instant network: Providing connectivity for refugees in an emergency environment. Retrieved from https://www.gsma.com/refugee-connectivity/case-study-vodafone-instant-network/

Habekuß, V. F., & Schmitt, S. (2015, October 1). Refugees: Why do you need a mobile phone? Retrieved from http://www.zeit.de/gesellschaft/zeitgeschehen/2015-09/smartphones-mobil-phones-refugees-help

Hannon, K. (2013, May 14). Working Abroad After Retirement Gains Appeal. Retrieved from http://www.nytimes.com/2013/05/15/business/retirementspecial/working-abroad-after-retirement-gains-appeal.html?mcubz=0

Harada S., Sato D., Takagi H., Asakawa C. (2013) Characteristics of elderly user behavior on mobile multi-touch devices. In: Kotzé P., Marsden G., Lindgaard G., Wesson J., Winckler M. (eds) Human-Computer Interaction – INTERACT 2013. INTERACT 2013. Lecture Notes in Computer Science, vol 8120. Springer, Berlin, Heidelberg. Retrieved from https://pdfs.semanticscholar.org/6cef/1c61db1c953ab64cdde33ef8ff951a2f4af5.pdf

Hathaway, J. C. (2007, Fall). Refugee solutions, or solutions to refugeehood? *Refuge*, 3+. Retrieved from Academic OneFile, http://link.galegroup.com/apps/doc/A178453436/AONE?u=gain40375&sid=AONE&xid=20e36b1e

Hathaway, J. C. (2007, May). Why refugee law still matters. *Melbourne Journal of International Law, 8* (1), 89+. Retrieved from Academic OneFile, http://link.galegroup.com/apps/doc/A167305288/AONE?u=gain40375&sid=AONE&xid=fc4a4417

Heaven, B., Brown, L. J., White, M., Errington, L., Mathers, J. C., & Moffatt, S. (2013). Supporting well-being in retirement through meaningful social roles: Systematic review of intervention studies. *The Milbank Quarterly, 91* (2), 222–287. http://doi.org/10.1111/milq.12013

Hsiao, S.-W., Lee, C.-H., Yang, M.-H., & Chen, R.-Q. (2017, May). User interface based on natural interaction design for seniors. *Computers in Human Behavior, 75* , 147+. Retrieved from http://link.galegroup.com/apps/doc/A512969922/AONE?u=gain40375&sid=AONE&xid=81f07078

IBM100 - A Global Volunteer Network. (2012, March 7). Retrieved from https://www-304.ibm.com/jct03001c/ibm/history/ibm100/us/en/icons/volunteerism/

IBM. (n.d.). Retiree helps refugees find new life and new language in Germany. Retrieved from https://www.ibm.com/ibm/responsibility/initiatives/stories/IBM-Renate-Kittelmann-volunteer.shtml

IIT Institute of Design. (2017). Designed services. Retrieved from https://www.id.iit.edu/themes/service-design/

Ijeoma, E. (2016). The Refugee Project. Retrieved from http://www.therefugeeproject.org/

International Rescue Committee. (2017). Refugees in America. Retrieved from https://www.rescue.org/topic/refugees-america

Jacob, A. (1994, May). Social integration of Salvadoran refugees. *Social Work, 39* (3), 307–312. doi:10.1093/sw/39.3.307

Jalonick, M. C., & Burke, G. (2016, January 29). U.S. placement program failed to protect child migrants from trafficking, Senate panel says. Retrieved from https://www.pbs.org/ newshour/nation/u-s-placement-program-failed-to-protect-child-migrants-from-trafficking-senate-panel-says

Jensen, M. (2017, February 23). Pay it Forward: Retired history teacher spends all his time helping refugees in Utah. Retrieved from http://kutv.com/features/pay-it-forward/pay-it-forward-retired-history-teacher-spends-all-his-time-helping-refugees-in-utah

Johnson, T. (2016, July 18). Sweden: Using a digital app to speed up migrant integration. Retrieved from https://ec.europa.eu/ esf/transnationality/content/sweden-using-digital-app-speed-migrant-integration

Jones, C., & E. Williamson, A. (2014). Volunteers working to support migrants in Glasgow: A qualitative study. *International Journal of Migration, Health and Social Care, 10* (4), 193-206. doi:10.1108/ijmhsc-10-2013-0034

Jones, M., & Houle, F. (2008, Fall). Building a better refugee status determination system: Introduction. *Refuge, 25* (2), 3+. Retrieved from http:// link.galegroup.com/apps/doc/A229302916/ AONE?u=gain40375&sid=AONE&xid=33c4eb22

Jungbluth, S. (2017, February). *"Smartphone refugees" mobility, power regimes, and the impact of digital technologies* (Master's thesis, University of Tampere, Tampere, Finland). Retrieved from https://tampub.uta.fi/bitstream/handle/10024/100787/ GRADU-1490004757.pdf?sequence=1

Kallick, D. D., & Mathema, S. (2016, June). *Refugee integration in the United States*. Retrieved from Center for American Progress website: https://cdn.americanprogress.org/wp-content/ uploads/2016/06/15112912/refugeeintegration.pdf

Kals, E., & Strubel, I. T. (2017, Fall). Volunteering to support refugees: A question of one's scope of justice. *Refuge*, 66+. Retrieved from Academic OneFile, http://link.galegroup.com/apps/doc/A515495287/ AONE?u=gain40375&sid=AONE&xid=29fd72ce

Kandal, S. (2014, October). Sustainable integration in Norway: A social systems design approach. In *Proceedings of RSD3, Third Symposium of Relating Systems Thinking to Design* (p. 1–10). Oslo, Norway.

Kantor, J., & Einhorn, C. (2017, March 25). Canadians adopted refugee families for a year. Then came month 13. Retrieved from https://www.nytimes.com/2017/03/25/world/canada/syrian-refugees.html?smid=tw-nytimes&smtyp=cur

Kelley, N., & Durieux, J.-F. (2004, March). UNHCR and current challenges in international refugee protection. *Refuge, 22* (1), 6+. Retrieved from http:// link.galegroup.com/apps/doc/A119114308/ AONE?u=gain40375&sid=AONE&xid=5ca3bdaa

Kelly, D. (2016, October 14). Senior hosts grow exponentially with Airbnb. Retrieved from https://beta.theglobeandmail. com/report-on-business/senior-hosts-grow-exponentiallywith-airbnb/article32350445/

Krogstad, J. M., & Gonzalez-Barrera, A. (2014, December 11). Texas tops list of states where this year's unaccompanied child migrants ended up. Retrieved from http://www.pewresearch. org/fact-tank/2014/12/11/texas-tops-list-of-states-where-this-years-unaccompanied-child-migrants-ended-up/

Krogstad, J. M., & Radford, J. (2017, January 30). Key facts about refugees to the U.S. Retrieved from http://www.pewresearch. org/fact-tank/2017/01/30/key-facts-about-refugees-to-the-u-s/

LifeSpots app–Trellyz. (2017). Retrieved from http://trellyz.com/ lifespots-app/

Lippert, R. K. (2009, Spring). Wither sanctuary? *Refuge, 26* (1), 57+. Retrieved from http:// link.galegroup.com/apps/doc/A238751973/ AONE?u=gain40375&sid=AONE&xid=b1267735

LinkedIn for refugees–Mobile app. (2017, September 21). Retrieved from https://www.slideshare.net/LinkedinforGood/ linkedin-for-refugees-mobile-app

Lupton, E. (2011). *Graphic design thinking: Beyond brainstorming*. New York, NY: Princeton Architectural Press.

Lupton, E. (2017). *Design is storytelling*. New York, NY: Cooper Hewitt, Smithsonian Design Museum.

Ludden, J. (2011, January 17). Retirees lend a hand to refugees in Fargo, N.D. Retrieved from http://www.npr. org/2011/01/17/132705619/retirees-lend-a-hand-to-refugees-in-fargo-n-d

Lum, Z. A. (2016, September 9). UNICEF exec calls out people's apathy toward refugee crisis. Retrieved from http:// www.huffingtonpost.ca/2016/09/08/unicef-children-refugees_n_11912540.html

Ma, A. (2015, December 8). Sydney hackathon creates new apps for refugees. Retrieved from https://www.huffingtonpost.com/ entry/australia-apps-refugees_us_56659f57e4b072e9d1c6a77f

MacFarlane, A., Glynn, L. G., Mosinkie, P. I., & Murphy, A. W. (2008, December). Responses to language barriers in consultations with refugees and asylum seekers: a telephone survey of Irish general practitioners. *BMC Family Practice, 9*, 68. Retrieved from http://link.galegroup.com/apps/doc/A193482823/AONE?u=gain40375&sid=AONE&xid=e05a016c

Mao, K. (2017, February 15). 5 Principles for designing delightful digital experiences for seniors. Retrieved from https://medium.freecodecamp.org/5-principles-for-designing-delightful-digital-experiences-for-seniors-8ece28229653

Marcellini, F., Sensoli, C., Barbini, N., & Fioravanti, P. (1997). Preparation for retirement: Problems and suggestions of retirees. *Educational Gerontology, 23* (4), 377-388. doi:10.1080/0360127970230406

Margolin, V., & Margolin, S. (2002). A "social model" of design: Issues of practice and research. *Design Issues, 18* (4), 24-30. doi:10.1162/074793602320827406

Mars, R. (2017, February 28). Church (sanctuary, part 1); State (sanctuary, part 2). Oakland, CA: 99% Invisible.

McCool, B. (2017, November 10). Designer Lisanne Koning thinks inside the box for refugee children. Retrieved from http://www.thedieline.com/blog/2017/11/8/designer-lisanne-koning-thinks-inside-the-box-for-refugee-children

McBrien, J. L. (2005, September). Educational needs and barriers for refugee students in the United States: A review of the literature. *Review of Educational Research, 75* (3), 329-364. doi:10.3102/00346543075003329

McGrath, S., & McGrath, I. (2013, Summer). Funding matters: the maze of settlement funding in Canada and the impact on refugee services. *Canadian Journal of Urban Research, 22* (1), 1+. Retrieved from Academic OneFile, http://link.galegroup.com/apps/doc/A349607677/AONE?u=gain40375&sid=AONE&xid=6006d7ac

Miller, C. (2016, August 18). Latest Gartner data shows iOS vs Android battle shaping up much like Mac vs Windows. Retrieved from https://9to5mac.com/2016/08/18/android-ios-smartphone-market-share/

Milne, D. (2013). *The psychology of retirement: Coping with the transition from work*. Chichester, West Sussex, UK: Wiley-Blackwell.

Mobilearn. (2016). About the Service. Retrieved from https://se.mobilearn.com/en/about-service/

Mulholland, M. (2017). Welcoming the Stranger in Alberta: Newcomers, Secularism and Religiously Affiliated Settlement Agencies. *Canadian Ethnic Studies, 49* (1), 19-42. Canadian Ethnic Studies Association. Retrieved January 1, 2018, from Project MUSE database.

New Retirement. (2017, August 29). Jobs for seniors: What are the best jobs after retirement? Retrieved from https://www.newretirement.com/retirement/jobs-for-seniors-best-jobs-after-retirement/

Obordo, R. (2017, March 9). Teaching refugees languages: 'No specific skills required, just a desire to help and a friendly smile'. Retrieved from https://www.theguardian.com/world/2015/sep/11/teaching-refugees-languages-no-specific-skills-required-just-a-desire-to-help-and-a-friendly-smile

O'Brien, L., Burls, A., Townsend, M., & Ebden, M. (2010). Volunteering in nature as away of enabling people to reintegrate into society. *Perspectives in Public Health, 131* (2), 71-81. doi:10.1177/1757913910384048

O'Donnell, C. A., Higgins, M., Chauhan, R., & Mullen, K. (2007, May). They think we're ok and we know we're not. A qualitative study of asylum seekers' access, knowledge and views to health care in the UK. *BMC Health Services Research, 7*, 75. Retrieved from http://link.galegroup.com/apps/doc/A164936593/AONE?u=gain40375&sid=AONE&xid=70ecadf2

OECD, Organisation for Economic Co-operation and Development. (2017, January). *Who bears the cost of integrating refugees?* Retrieved from Migration Policy Debates website: https://www.oecd.org/els/mig/migration-policy-debates-13.pdf

Office of Refugee Resettlement. (2015, November 9). State of Florida–Programs and services by locality. Retrieved from https://www.acf.hhs.gov/orr/resource/state-of-florida-programs-and-services-by-locality

Olson, E. (2016, January 22). Older drivers hit the road for Uber and Lyft. Retrieved from https://www.nytimes.com/2016/01/23/your-money/older-drivers-hit-the-road-for-uber-and-lyft.html?mcubz=0

Omri, R. (2016, August 31). U.S. reaches goal of admitting 10,000 Syrian refugees. Here's where they went. Retrieved from https://www.nytimes.com/interactive/2016/08/30/us/syrian-refugees-in-the-united-states.html?mcubz=0

Orlov, L. M. (2016, April). *2016 Technology survey older adults, age 59–85+*. Retrieved from Link·age website: https://www.ageinplacetech.com/files/aip/Linkage%202016%20Technology%20April%202016.pdf

PEW Research Center. (2013, May 9). Most say immigration policy needs big changes. Retrieved from http://www.people-press.org/2013/05/09/most-say-immigration-policy-needs-big-changes/

Piliavin, J. A., & Siegl, E. (2007). Health benefits of volunteering in the Wisconsin longitudinal study. *Journal of Health and Social Behavior, 48* (4), 450-464. doi:10.1177/002214650704800408

Pillai, P. (2012). Cultural directions and origins of everyday decisions. *Integr Psych Behav, 46*, 235–242. doi:10.1007/s12124-012-9196-9

Ram, A. (2015, December 5). The smartphone completely changed the refugee crisis. Retrieved from https://www.wired.com/2015/12/smartphone-syrian-refugee-crisis/

Radford, J., & Connor, P. (2016, December 6). Just 10 states resettled more than half of recent refugees to U.S. Retrieved from http://www.pewresearch.org/fact-tank/2016/12/06/just-10-states-resettled-more-than-half-of-recent-refugees-to-u-s/

Rajnes, D. M. (2002). The 2001 Minority Retirement Confidence Survey: Minority Attitudes and Behaviours Towards Retirement. *Public Policy & Aging Report, 12* (3), 19-23. Retrieved from https://encore.org/wp-content/uploads/files/2002_survey_analysis.pdf

Refugee aid app–Refugee aid app. (2017). Retrieved from http://refugeeaidapp.com/

Refugee Council. (2017). Refugee services–Refugees & asylum seekers UK–Refugee council. Retrieved from https://www.refugeecouncil.org.uk/what_we_do/refugee_services

Refugee Processing Center. (2016). Resources. Retrieved from http://www.wrapsnet.org/resources/

Refugee Republic. (2012). Interactive map. Retrieved from https://refugeerepublic.submarinechannel.com/intro_en.php?o=o

Refugees Welcome. (2016, April 20). About us. Retrieved from http://www.refugeesarewelcome.org/about-us/

Rendgen, S., & Wiedemann, J. (2014). *Understanding the world: The atlas of infographics*. Cologne, Germany: Taschen.

Rendgen, S., In Wiedemann, J., Ciuccarelli, P., Wurman, R. S., Rogers, S., & Holmes, N. (2016). *Information graphics*. Cologne, Germany: Taschen.

Rodrigues, É., Carreira, M., & Gonçalves, D. (2014, February). Developing a multimodal interface for the elderly. *Procedia Computer Science, 27*, 359-368. doi:10.1016/j.procs.2014.02.040

Rosales, A., & Fernández-Ardèvol, M. (2016). Smartphones, apps and older people's interests. *Proceedings of the 18th International Conference on Human-Computer Interaction with Mobile Devices and Services - MobileHCI '16*. doi:10.1145/2935334.2935363

Rouhollahi, M. (2016, Fall). Choice theory: Investigating human behavior in four dimensions. *International Journal of Choice Theory and Reality Therapy, 36* (1), 31-34. Retrieved from https://search.proquest.com/openview/b26c419fd70a68ab79694734b6899eea/1?pq-origsite=gscholar&cbl=1046401

Sandre, A. R., & Newbold, K. B. (2016, December 30). Telemedicine: Bridging the gap between refugee health and health services accessibility in Hamilton, Ontario. *Refuge, 32* (3), 108+. Retrieved from http://link.galegroup.com/apps/doc/A515495273/AONE?u=gain40375&sid=AONE&xid=8c57f9ff

Schreieck, M., Zitzelsberger, J., Siepe, S., Wiesche, M., & Krcmar, H. (2017). Supporting refugees in every day life–Intercultural design evaluation of an application for local information. In *Twenty First Pacific Asia Conference on Information Systems* (p.1–12). Langkawi, Malaysia: Intercultural Design Evaluation.

Shea, A., Drenttel, W., & Lupton, E. (2012). *Designing for social change: Strategies for community-based graphic design*. New York, NY: Princeton Architectural Press.

Shubert, A. (2015, September 14). Refugee crisis: How Germany rose to the occasion. Retrieved from http://www.cnn.com/2015/09/13/europe/germany-refugees-shubert/index.html

Silvius, R. (2016). Neo-liberalization, devolution, and refugee well-being: A case study in Winnipeg, Manitoba. *Canadian Ethnic Studies, 48* (3), 27-44. doi:10.1353/ces.2016.0024

Slavíček, T. (2014). *Touch screen mobile user interface for seniors* (Master's thesis, Czech Technical University, Prague, Czech Republic). Retrieved from https://dip.felk.cvut.cz/browse/pdfcache/slavito3_2014dipl.pdf

Slavíček, T. (2014, November 25). Designing a mobile interface for older people. Retrieved from https://medium.com/@tomasslavicek/designing-a-mobile-interface-for-older-people-1c9b70fd645c

Slovic, P. (2007, April). If I look at the mass I will never act: Psychic numbing and genocide. *Judgment and Decision Making, 2* (2), 79-95. Retrieved from http://journal.sjdm.org/7303a/jdm7303a.htm

Soliman, H. H., & Miah, M. R. (2011). An educational empowerment practice model for social workers involved in relief services for refugee populations. *Social Development Issues, 33* (2), 74+. Retrieved from Academic OneFile, http://link.galegroup.com/apps/doc/A391930392/AONE?u=gain40375&sid=AONE&xid=b8c40d61

Souleles, N. (2017). Design for social change and design education: Social challenges versus teacher-centred pedagogies. *The Design Journal, 20* (1), 927-936. doi:10.1080/14606925.2017.1353037

Smith, A. (2014, April 3). Older adults and technology use. Retrieved from http://www.pewinternet.org/2014/04/03/older-adults-and-technology-use/

Smith, R. C., Vangkilde, K. T., Kjærsgaard, M. G., Otto, T., Halse, J., & Binder, T. (2016). *Design anthropological futures*. New York, NY: Bloomsbury Academic.

Steinmetz, K. (2015, July 30). Uber wants your parents to be drivers. Retrieved from http://time.com/3978019/uber-older-drivers/

Sweet, Sweet Syria. (2017). About us. Retrieved from https://sweetsweetsyria.com/

Techfugees. (2017). Empowering the displaced with technology. Retrieved from https://techfugees.com/

Thomson, J. (2004). Life begins at seventy. *Psychodynamic Practice, 10* (4), 529-537. doi:10.1080/14753630412331313758

Tomkiw, L. (2016, February 5). Europe refugee crisis: How retirees in Germany are helping Syrians. Retrieved from http://www.ibtimes.com/europe-refugee-crisis-how-retirees-germany-are-helping-syrians-2292304

U.S. Committee for Refugees and Immigrants. (2017, February). Albany, New York still welcomes refugees with felp from USCRI. Retrieved from http://refugees.org/news/albany-new-york-still-welcomes-refugees-help-uscri/

United Health Foundation. (2017). Explore volunteerism in the United States, 2017 senior report. Retrieved from https://www.americashealthrankings.org/explore/2017-senior-report/measure/volunteerism_sr/state/ALL?utm_source=senior2017&utm_medium=print&utm_campaign=senior2017

UNICEF. (2016, September 7). Nearly 50 million children uprooted worldwide. Retrieved from https://www.unicef.org/media/media_92725.html

UNHCR Innovation Service. (2016). A brief innovation glossary. Retrieved from http://www.unhcr.org/innovation/wp-content/uploads/2017/07/UNHCRInnovation-Glossary.pdf

UNHCR Innovation. (2017, July 13). New publication: UNHCR Innovation's year in review 2016. Retrieved from http://www.unhcr.org/innovation/new-publication-unhcr-innovations-year-in-review-2016/

UNHCR Innovation Service. (2018). Innovation starts with people. Retrieved from http://www.unhcr.org/innovation/

UNHR. (2017). What is a refugee. Retrieved from http://www.unrefugees.org/what-is-a-refugee/

United Nations High Commissioner for Refugees. (2016, September 14). Mobile connectivity a lifeline for refugees, report finds. Retrieved from http://www.unhcr.org/afr/news/latest/2016/9/57d7d4478/mobile-connectivity-lifelinerefugees-report-finds.html

United Nations High Commissioner for Refugees. (2016). Figures at a Glance. Retrieved from http://www.unhcr.org/en-us/figures-at-a-glance.html

United Nations High Commissioner for Refugees. (2016). Global trends: Forced displacement in 2016. Retrieved from http://www.unhcr.org/en-us/statistics/unhcrstats/5943e8a34/global-trends-forced-displacement-2016.html

United Nations High Commissioner for Refugees. (2016, June 3). These 10 refugees will compete at the 2016 Olympics in Rio. Retrieved from http://www.unhcr.org/news/latest/2016/6/575154624/10-refugees-compete-2016-olympics-rio.html

US Department of Homeland Security. (2017, October 24). Learn about the refugee application process. Retrieved from https://www.uscis.gov/humanitarian/refugees-asylum/refugees

US Department of State. (2018, January 20). U.S. refugee admissions program FAQs. Retrieved from https://www.state.gov/j/prm/releases/factsheets/2017/266447.htm

Valenta, M., & Bunar, N. (2010, April). State Assisted Integration: Refugee Integration Policies in Scandinavian Welfare States: the Swedish and Norwegian Experience. *Journal of Refugee Studies, 23* (4), 463-483. doi:10.1093/jrs/feq028

Vandenberg, S. (2017, March 8). Volunteer abroad opportunities for seniors and retirees. Retrieved from https://www.volunteerforever.com/article_post/volunteer-abroad-opportunities-for-seniors-and-retirees

Vargas, R. (2017, January 11). Cupertino retirees make comfort quilts. Retrieved from https://www.nbcbayarea.com/news/local/Cupertino-Retirees-Make-Quilts-For-Local-And-Global-Communities-410415355.html

Vernon, A., Deriche, K., & Eisenhauer, S. (2016). *Connecting refugees. How internet and mobile connectivity can improve refugee well-being and transform humanitarian action*. Retrieved from United Nations High Commissioner for Refugees website: http://www.unhcr.org/5770d43c4

Viskovich, Y. (2017, December 5). Education is key for refugees to build their futures. Here's how we can help them do that. Retrieved from http://www.unhcr.org/innovation/education-is-key-to-rebuilding-refugees-future-and-to-refugees-rebuilding-their-countrys-future-heres-how-we-could-help-them-do-that/

VolunteerMatch. (2017). VolunteerMatch–Where volunteering begins. Retrieved from https://www.volunteermatch.org/

Von Schwerin-High, F. (2017, November 12). Refugees, Retirees, and Revised Realities in Recent German Works of Fiction. Retrieved from http://pamla.org/2017/proposals/refugees-retirees-and-revised-realities-recent-german-works-fiction

Walters, J. L. (2017). Olivier Kugler: bearing witness. *Eye: The International Review of Graphic Design*, 42+. Retrieved from Academic OneFile, http://link.galegroup.com/apps/doc/A486712230/AONE?u=gain40375&sid=AONE&xid=bd290243

Waxman, P. (2001, Summer). The economic adjustment of recently arrived Bosnian, Afghan and Iraqi Refugees in Sydney, Australia. *International Migration Review, 35* (2), 472. Retrieved from http://link.galegroup.com/apps/doc/A77875791/AONE?u=gain40375&sid=AONE&xid=03c5a5af

Welcome at appsforrefugees.com. (2018). Retrieved from http://appsforrefugees.com/

Welcoming America. (2017). Welcoming refugees. Retrieved from http://www.welcomingrefugees.org/about-project

Welsh, T. (2015, November 20). 8 Facts about the U.S. program to resettle Syrian refugees. Retrieved from https://www.usnews.com/news/articles/2015/11/20/8-facts-about-the-us-program-to-resettle-syrian-refugees

What Design Can Do. (2017, March). The WDCD refugee challenge. Retrieved from https://www.whatdesigncando.com/challenge/refugeechallenge/

What Design Can Do. (2017). What design can do to bring refugees and host communities closer to one another. Retrieved from https://www.whatdesigncando.com/challenge/wp-content/uploads/sites/3/2016/04/0.-WDCD_RefugeeChallenge_BRIEF3.pdf

Wilson-Forsberg, S., & Sethi, B. (2015). The volunteering dogma and Canadian work experience: Do recent immigrants volunteer voluntarily? *Canadian Ethnic Studies, 47* (3), 91-110. doi:10.1353/ces.2015.0034

Woodfield, M. (2016, October 20). Educating refugees: The value of digital platforms and mobile technology. Retrieved from http://www.digitalistmag.com/improving-lives/2016/05/05/educating-refugees-value-of-digital-platforms-and-mobile-technology-04180972

Wong, D. M. (2013). *Guide to information graphics: The dos and don'ts of presenting data, facts, and figures*. New York, NY: W.W. Norton & Company.

World Relief. (2017). About. Retrieved from https://www.worldrelief.org/about

Zong, J., & Batalova, J. (2017, June 7). Refugees and asylees in the United States. Retrieved from http://www.migrationpolicy.org/article/refugees-and-asylees-united-states

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VISUAL RESEARCH (PINTEREST BOARDS)

branding: https://pin.it/ujkujujtvugdgj
exhibit display: https://pin.it/2uz6q62di5basz
refugees: https://pin.it/uapqmgob5yiyza
retirees: https://pin.it/inw2h2folqyrzg
ux/ui: https://pin.it/ryduocvpjdx3u5

STUDIO PROCESS & RESEARCH SPACE

Figure 72

Christina Singer is a designer and educator. She was born and raised in Chattanooga, TN, where she attended Girls Preparatory School. Growing up, Singer was a competitive gymnast, swimmer, diver, pole vaulter, and rock climber.

In 2013, Singer earned a B.F.A. in Studio Art with a concentration in Graphic Design and a Marketing minor from East Tennessee State University in Johnson City, TN. From 2013 to 2014, she worked as the Associate Art Director for *EatingWell* magazine in Vermont. Later in 2014, she moved to Busan, South Korea to teach English as a Second Language for a year. From 2015 to 2018, she pursued her M.F.A. in Fine Arts with a concentration in Graphic Design at University of Florida while working as a Graphic Design Graduate Assistant for UF Off Campus Life.

While in graduate school, she continued to visit South Korea to tour, visit friends, form professional relationships, and contribute design work to the NGO, PSCORE (People for Successful Corean Reunification). Singer successfully completed her M.F.A. in 2018. She will join the faculty at the University of Tampa as a tenure-track Assistant Professor of Art, Graphic Design.