Engaging in Aging:
Sustaining Participation in Design

Catherine Y. Lim

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Committee:
Tad Hirsch
Kristine Matthews
Nancy Hooyman

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University of Washington

Abstract

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Catherine Y. Lim

Chair of the Supervisory Committee:

Tad Hirsch
Associate Professor
School of Art, Division of Design

Engaging in Aging investigated longitudinal aspects of participatory design while engaging older adults at a local senior center. Participants worked alongside students to design and test three interventions to address experiences of social isolation in their own communities.

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Catherine Y. Lim
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Introduction

The unprecedented growth in aging populations will have a profound impact on healthcare, human and social services, and policymaking. Over the next two decades, the U.S. will see a 65% growth in the older population, which means one in five Americans will be 65 and older by 2035. Designers have responded to the growing need to address daily problems older people may face. However, products for older adults tend to address physical impairments that come on with aging or treat older people as patients, focusing on issues such as fall detection or medication adherence. Recently, designers have applied more empathic processes to design for the daily experience of aging, with the goal of preserving autonomy and dignity in later years. The aim of Engaging in Aging was to build upon this work by actively involving older adults to design and prototype interventions that address issues of social isolation in their community.

Older adults are seen as recipients of services that meet their needs rather than drivers of change. Engaging in Aging sought to facilitate an open-ended process that allowed participants to directly influence both the outcomes and process of design.

Background

The US Census estimates that by the year 2030, older adults will make up 22-27% of the population in King County, where this project took place.[1] According to the 2014 US Aging Survey,[2] older adults who face social isolation, especially if living alone, are more likely to need social services as compared to their counterparts who live with family or in intentional retirement communities. Furthermore, research shows clear links between social isolation and poor physical and mental health; similarly, there is evidence that social supports can positively impact mortality.[3] Social Isolation was recently featured in publications from the AARP[4], as well as the American Academy of Social Work & Social Welfare,[5] to draw attention to its prevalence and evidence that interventions can work to minimize isolation and its impacts.

The 2012 AARP report on isolation[6] used the definition from Biordi and Nicholson[7] of social isolation as "the distancing of an individual, psychologically or physically, or both, from his or her network of desired or needed relationships with other person. Therefore, social isolation is a loss of place within one's group(s)."

Social isolation among older adults has been researched since the 1960s, yet the causes and conditions for isolation have yet to be fully understood.[8] The definition above indicates that isolation does not correspond to the size of one's social network nor the level of interaction, but that the experience of isolation is relative to each individual. Although the aging population is often seen as a homogenous group, in reality "...as a collection of individuals, people above the age of 65 years old, comprise a group that is considerably more diverse than members of the general (younger) population."[9] The heterogeneity represented in older people explains the difficulty of investigating the true causes and effects of

1. "Area Trends - Seattle/King County Area Agency on Aging," accessed September 3, 2016, http://www.agingkingcounty.org/area_trends.htm.
2. "Profile of Older Americans:2014 Profile," accessed September 3, 2016, http://www.aoa.gov/Aging_Statistics/Profile/2014/14.aspx.
3. James Lubben et al., "Social Isolation Presents a Grand Challenge for Social Work," Grand Challenges for Social Work Initiative, Working Paper No 7 (2015).
4. K. Elder and J. Retrum, "Framework for Isolation in Adults over 50," AARP Foundation. Retrieved June 16 (2012): 2014.
5. Lubben et al., "Social Isolation Presents a Grand Challenge for Social Work."
6. Elder and Retrum, "Framework for Isolation in Adults over 50."
7. Diana Luskin Biordi and Nicholas R. Nicholson, "Social Isolation," Chronic Illness: Impact and Interventions, 1995, 168–90.
8. Benjamin Cornwell, Edward O. Laumann, and L. Philip Schumm, "The Social Connectedness of Older Adults: A National Profile," American Sociological Review 73, no. 2 (2008): 185–203.
9. Stephen Lindsay et al., "Engaging Older People Using Participatory Design," in Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (ACM, 2012), 1199–1208.

social isolation. Unique personal experiences as well as the spectrum of physical and cognitive abilities can affect the social lives of older people in varied ways. Established social roles can be disrupted or break down as individuals age.[10] Furthermore, major life changes—such as bereavement, retirement or moving to a residential community—as well as ongoing decline in health can narrow social roles and networks.[11]

10 Elder and Retrum, "Framework for Isolation in Adults over 50."
11 Cornwell, Laumann, and Schumm, "The Social Connectedness of Older Adults: A National Profile."

RELATED WORK

Previous work in participatory design (PD) and design work with and for older people informed my approach to this project. My motivations are aligned with previous work on the politics of PD practices. As a method of research, PD reflects "emancipatory objectives" initially associated with the protection of worker rights during the development of workplace technology.[12] Although the application of PD methods is driven largely by practical motivations for eliciting user participation, recent work by design researchers and practitioners have emphasized the moral and political premise of PD.[13]

Recent work by PD practitioners and researchers push the boundaries of how PD is currently practiced. Bjogvinsson, Ehn, and Hillgren suggest designers shift from 'projecting' to 'infrastructuring' in their approaches, in order to account for design that occurs 'before use' and 'in use'.[14] They adopt a longer-term framing that goes behind the confines of the design project, which creates synthetic start end points to participation. Similarly, Light and Akama adopt the ethics of care to suggest that we design for "future relations' between people rather than designing technologies, and that design is "on-going and never completed, spreading through encounter and exchange.[15] This long-term orientation to design has particular relevance to issues of aging, as articulated in questions posed by Light et al. in a recent workshop: to understand aging as process rather than as a category of "older person" or state of being elderly.

These important questions about approaches to aging dovetail a growing interest in the HCI community to improve the lives of older people through new technologies. Baecker et al. tested the prototypes for a tablet application designed for older people to stay connected with their families and friends.[16] In a study of senior centers, Lee et al. completed formative work work on technologies to support these spaces by focusing

12 Stefan Holmlid, "Participative; Co-Operative; Emancipatory: From Participatory Design to Service Design," in Conference Proceedings ServDes. 2009; DeThinking Service; ReThinking Design; Oslo Norway 24-26 November 2009 (Linköping University Electronic Press, 2012), 105–18.

13 Ann Light and Yoko Akama, "Structuring Future Social Relations: The Politics of Care in Participatory Practice," in Proceedings of the 13th Participatory Design Conference: Research Papers-Volume 1 (ACM, 2014), 151–60.

14 Erling Bjögvinsson, Pelle Ehn, and Per-Anders Hillgren, "Design Things and Design Thinking: Contemporary Participatory Design Challenges," Design Issues 28, no. 3 (2012): 101–16.

15 Light and Akama, "Structuring Future Social Relations: The Politics of Care in Participatory Practice."

16 Ron Bæcker et al., "Technology to Reduce Social Isolation and Loneliness," in Proceedings of the 16th International ACM SIGACCESS Conference on Computers & Accessibility (ACM, 2014), 27–34.

on the artifacts and culture most effective at engaging members.[17]

Recent work in HCI indicates a shift toward addressing issues of aging with more human-centered, participatory, and empathic approaches to design. Responding to the evidence that merely designing products to be more accessible does not necessarily result in increased adoption, designers have realized the need to consider the entirety of the aging experience. In fact, Waycott et al. published findings on a study of non-participation among older people who discontinued the use of a social iPad app.[18] Additionally, a set of digital games developed for older people demonstrated that while usability is a priority, exclusively focusing design decisions on the physical disabilities of older people reduces individuals down to a set of disabilities.

The design industry has also turned their attention to the growing aging population by designing more inclusive consumer products for the 'gray market'. In 2015, IDEO publicized the hire of a 90-year-old designer, Barbara Beskind, who will inform technology design for aging Baby Boomers19. "Designs On_ Aging" is IDEO's online homage to Beskind and consists of aging-related products and future concepts.[20] Similarly, Frog Design partnered with AARP and published a series of articles about designing for Aging in Place, revealing their ideation process and product concepts.[21] Researchers at the Helen Hamlyn Centre for Design at the Royal College of Art responded to the exclusion of seniors from the telecommunications industry. In particular, "Out of the Box" was set of tools intended to walk new users through the onboarding process of setting up and using a phone.[22] To develop this concept, researchers engaged older people of varying socioeconomic backgrounds and used bananas, stickers and pushpins as tangible prompts. The physicality of this research activity focused and elicited participant feedback on personal values, concerns, and desired features. As a result, this methodology led to solutions with unique form factors—physical maps, cards, and books—that their industry partner, Samsung, likely would not have considered.[23]

Directly involving older people very early in the design process can derive a number of benefits. Designers can gain uncover different insights and opportunities. In a study of participatory design involving people with dementia, interviews with caregivers skewed projects towards a focus on safety, whereas directly engaging people with

17 Young Seok Lee et al., "Senior Wellness: Practices of Community Senior Centers," in CHI'11 Extended Abstracts on Human Factors in Computing Systems (ACM, 2011), 2179–84.

18 Ann Light et al., "What's Special about Aging," Interactions 23, no. 2 (2016): 66–69.

19 "At 90, She's Designing Tech For Aging Boomers," NPR.org, accessed September 3, 2016, http://www.npr.org/sections/alltechconsidered/2015/01/19/377702882/at-90-shes-designing-tech-for-aging-boomers.

20 "Designs On–," accessed September 3, 2016, https://www.ideo.com/work/designs-on.

21 "Building a Foundation for Design | DesignMind," accessed September 3, 2016, http://designmind.frogdesign.com/2013/08/building-a-foundation-for-design/.

22 "Out of the Box: Access to Mobile Communications for Older People," Royal College of Art, accessed September 3, 2016, http://www.rca.ac.uk/research-innovation/helen-hamlyn-centre/research-projects/2009-projects/out-box-access/.

23 Jo-Anne Bichard and Rama Gheerawo, The Designer as Ethnographer: Practical Projects from Industry (na, 2010).

dementia emphasized social relations, memory, and daily activities supporting autonomy.[24] The use of tangible prompts in participatory design can bring focus to discussions by requiring engagement with artifacts and materials, as demonstrated by researchers of The Presence Project, who sent packages with maps, postcards, and materials in order to evoke responses from older people in the local neighborhood. They called these packages "cultural probes," which is now a widely used research technique to elicit responses from people and encourage design ideas.[25] Although there are a number of PD tools and methods to engage older people, there is a need to better understand how these methods can be employed in longer term engagements towards an 'infrastructuring' approach to design.

24 Stephen Lindsay et al., "Empathy, Participatory Design and People with Dementia," in Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (ACM, 2012), 521–30.

25 Bill Gaver, Tony Dunne, and Elena Pacenti, "Design: Cultural Probes," Interactions 6, no. 1 (1999): 21–29.

Design Workshops and Sessions

In April of 2015, I started working as a volunteer at the Wallingford Community Senior Center (WCSC), as part of the process for a course on inclusive design. After developing relationships with some of the clients who regularly spent time at the center, I continued to volunteer weekly for six months before deciding to partner with the organization. Through this collaboration, I was able to offer the design workshops as a program of WCSC and continue engaging participants through smaller, more focused design sessions. Through this process, we were able to explore three separate design interventions addressing social isolation.

Community partner and trust-building

Building a partnership with the staff at the WCSC was critical to the successful recruitment of participants. Through advanced planning with the programs staff, the initial design workshops were included in the center's quarterly calendar and newsletter. These were then emailed or mailed to WCSC members. The staff at the center generously helped craft the text description to be more appealing to the audience, and the workshop schedule was selected based on the availability of the multi-purpose room.

The following background information about the organization helps to contextualize the site where the project took place. The staff at WCSC was especially interested in the outcomes of the workshops because addressing issues of social isolation was part of the organization's mission. WCSC was a member-based nonprofit organization that was largely supported by the City of Seattle. WCSC offered community-based day programming to support healthy aging among residents throughout Seattle through exercise classes, tabletop games, social work, and regular affordable lunch service.

Despite the name associated with the neighborhood of Wallingford in Seattle, WCSCwas one of the few centers, providing services to older adults in the northeast area of Seattle. WCSC was a smaller organization relative to some of the larger senior centers throughout Seattle, however, they offered a surprisingly wide range of activities and programs for their clients for free or low rates. One of the goals for the year was to attract new members because their funding was contingent on the number of people served, so the staff were especially interested in understanding how they might reach and attract older Seattle residents who were socially isolated and unaware of the daytime programs offered by community senior centers like WCSC. They were also interested in solving some issues with wayfinding and visibility, as the senior center was located in the basement of a historic building that housed several nonprofit organizations and a school. Due to the restrictions from the property managers, the center was not permitted to post signs by the street or entrance ramp. New clients frequently reported getting lost,

and that they were often unaware of the senior center's presence in the building.

As an "outsider" in the community, building trust with the staff, clients, and volunteers at the organization was a critical step for planning and coordinating workshops. This trustbuilding period eventually eased the logistics, use of the space and facilities, and access to potential participants. While at the center, I encountered students from other departments recruiting for their own studies, who reported limited success with attracting participants. This is further evidence that the regularity of the time I spent at the center along with direct coordination with staff were key factors in my ability to engage 10-12 participants over the course of five months.

Collaboration with organizations, however, does not come without its challenges. In particular, one issue came into question throughout the process: how to balance the interests of the organization with the interests of the project. The topic of social isolation was of great interest to the staff, and the work to maintain daily operations at the center did not allow for time to engage clients in an inquiry similar to this project. The program director was especially interested in additional programming that may help welcome new people to the center. Therefore, designing the "welcome experience" became one of the first challenges during the design workshops. This is a prime example of how the involvement of the staff shaped some of the initial workshop activities. The potential feasibility of ideas, within the context of the organization's financial pressures, were observed as constraints to the development of ideas, though they were not always perceived by workshop participants.

Participants

In January, February, and March of 2016, a total 14 participants attended design workshops and sessions. A convenience sample of participants were recruited from the client base at the center. Eight registered to attend the first workshop, and ten were present. Seven of the participants in the third workshop continued to participate in the design sessions over the proceeding three months through May.

The majority of participants signed up for workshops after reading about them in the newsletter and seeing the poster hanging at the center. I directly asked several people to join the workshops, and two were able to attend. The staff also thought about specific people who might be interested and emailed or told them directly. One participant, who was completely new to the senior center, heard from a neighbor at a senior residential facility that he might enjoy the free workshop.

Nine individuals attended all three workshops and seven from that group continued to participate in the design sessions that followed. Two were unable to continue with the design sessions due to illness and scheduling conflicts, respectively.

Methods and procedures

In this section, I describe the methods used and content of workshops and design sessions. The workshops were intentionally open-ended to allow participants to develop ideas for interventions, rather than

presenting concepts and using the PD process to elicit input from users. The open-ended approach reflected the motivations of the project, to empower participants to help address issues of isolation in their own community. While many previous PD projects involving older people have focused on the design of technologies, it was important that we allow for interventions of any form, so that participants remained drivers of how the concepts unfolded.

We held a series of three workshops, which were each two hours long. Before each workshop, we prepared a double sided handout that summarized the design challenge for the day. We used these handouts to make sure that instructions for the workshops were presenting in writing to reinforce instructions said aloud in case participants had some difficulty hearing.

During the first workshop, we focused on introducing the concepts of participatory design and eliciting stories about personal experiences with social isolation. We began the first workshop with an ice breaker, then screened a short video, Junk Mail, which depicted a woman who went to a senior center daily and yet still had a lot of time on her hands.26 To pass the time, she shredded junk mail. The intent was to use the woman's story as a platform for a group discussion about experiences with social isolation.

Following the discussion, we initiated the design challenge for the day: redesigning the welcome experience at the senior center. We asked participants to share how they would shape the experience for someone walking into the senior center for the first time. We considered some possible topics in advance as a way to structure questions, such as wayfinding, print materials to provide, orientation to the space, and who they would meet. We included these questions on the worksheet so that participants could spend a few minutes thinking and writing down some thoughts.

We then introduced the activity for the design challenge, which was to show their ideas as scenarios through role-playing. We demonstrated the concept of role-playing using a quick paper prototype of a window camera product concept. We set aside a table for crafting materials, so participants could use supplies as needed. We then divided the participants into groups of two to three individuals each, and gave them 30 minutes to develop a role-playing scenario. Each group presented their scenarios at the end, in front of the larger group. We gave each participant a digital point-and-shoot camera and a journal for a photo elicitation exercise to do at home over the course of the week before the second workshop.

We spent a few minutes instructing participants on the use of the camera. All participants reported that they had never used a camera before, yet they were all willing and ready to try and excited the learn. The prompt for the photo elicitation included a set of questions around experiences with social isolation: What makes you feel connected or isolated? What gives you a sense of belonging? What makes for a fulfilling or dissatisfying day? We wanted to allow participants to share the stressors that might cause feelings of isolation as well as the comforts that made them feel connected. We asked participants to write in the journals and share what they captured in the photos

26 Voyager, Junk Mail, 2015, https://vimeo.com/142997373.

and any relevant stories.

At the second workshop, participants arrived with their digital cameras and journals, and we spent most of the time printing the photos and arranging them. The senior center did not have any empty wall space, so we brought tall foam core boards for pinning up the photos. The purpose of pinning the photos was to arrange them by affinity so we could discuss commonalities and emergent themes, and participants could also share their unique experiences. We printed the photos on-site and asked participants to think of a word or two that described each photograph and write them on post-it notes to pin up alongside the photos. We then encouraged participants to share their photographs in pairs to encourage collaboration. The room was bustling with discussions as they were busy describing, writing, and pinning up their photographs. At the end we had at least ten photos per person pinned up on the board and we ended the session with a discussion about patterns they noticed and anything participants wanted to share about their own photographs. The intention was to allow for collaborative reflection. We introduced the concept of insights, as actionable information, and asked participants to think of ideas for addressing social isolation based on what we had uncovered through the photo elicitation.

In the third workshop, we focused on ideation. We set up the boards with photos still pinned up and asked participants to help develop a set of questions we can ask based on the patterns we observed in the photos. The questions included how to build community, intergenerational interactions, getting involved in neighborhood groups, how to reach people who are homebound or unaware of senior centers, and meeting new people with common interests. After writing the questions on a large flip chart, we had them posted and asked participants to brainstorm ideas.

Some participants discussed how the senior center provided all of the support they needed for socializing, and others who wanted to socialize outside of the senior center. This division allowed for a natural splitting into two teams, one at each table. The group who wanted to develop an intervention within the center worked quietly to write down ideas on post-it notes before coming together to discuss them. The individuals who were interested in socializing outside of the center talked through all of their ideas before writing down a few. Each of teams then broke up into groups around each idea. 4 groups of 2-3 individuals then presented their ideas to the rest of the group using storyboards and role playing. We invited the center's staff to attend the presentations and provide any feedback on ideas.

At the third and final workshop, we had sign up sheets available for anyone who wanted to continue to further develop ideas during design sessions. All nine participants who attended the final workshop were interested, so two weeks after the first workshop, we began meeting in small groups. Each group of 2-3 individuals met with me to focus on a specific idea from the final workshop. These design sessions were held in the multipurpose room at the senior center and were less structured than the workshops. The frequency and number of meetings differed for each group, as some ideas needed more time to consider details.

The activities during design sessions were unique to each group depending on the intervention. For example, the group focused on the welcome experience spent one session on the locations for the most effective wayfinding by drawing out potential walking and bus routes on a map.

The group interested in developing a website for coordinating outings developed scenarios to identify a set of features.

Planning for workshops

Every week for three months leading up to the workshops, I went to the senior center as a volunteer for their lunch service or to play mahjongg and scrabble. I used this opportunity to receive ad hoc feedback on ideas for workshop activities. For example, I mentioned the upcoming workshops and one of the first discoveries was that most people were not interested in discussing social isolation. I knew we would have to introduce the topic carefully during workshops and we would have to be creative about how to make the issues more engaging and approachable. I also interviewed the social worker and programs staff about how they were already addressing social isolation at the center and where there may be additional opportunities to intervene.

R, a board member at the WCSC and retired psychology professor, agreed to help shape the agenda for workshops. She was experienced in co-leading the conversation cafés for female clients at the center. Conversation cafés were biweekly meetings open to all female clients at the senior center. The senior center programs and social work staff coordinated the meetings, along with one for men and another open to everyone, to enable socializing and casual discussions about common issues such as "Retirement to Reinvention." The topics of the cafés were well-aligned with the issues surrounding social isolation, and after attending a café meeting, I asked R to help with planning for the design workshops. Although she had little knowledge of participatory design, she had experience facilitating meetings and classes at the senior center and, being an older adult herself, had some insight into the types of workshop activities to which participants would be receptive.

We met with R before and after each workshop to debrief and plan the agenda for the succeeding workshop. The meetings were held at her home, which was an apartment at a senior living facility. R's input was especially useful for feedback on elements such as the use of cameras and the pacing of workshop activities. She emphasized the importance of building in time to allow participants to chat, which allowed participants to work together during small group activities. R also shared her perspective on social isolation, based on what she had observed among friends and acquaintances, and her own personal experiences since retirement. This was especially important because the issues of social isolation were difficult to discuss with new people. For example, it was R's idea that instead of sharing definitions of social isolation, we should show a video that told the story of an individual experiencing loneliness. The video was an effective way to allow participants to empathize and relate to the topic.

Approaching the topic of Social Isolation

It was clear that the issue of social isolation was difficulty to approach, especially among a group of strangers. The issues are very personal and relate to one's mental health, and the definitions found in the social work and health sciences literature did not resonate with how people felt. Therefore, the video was an effective way to draw out personal perspectives on the loneliness seen in the character, Mary. After watching the video, participants empathized with Mary's situation and experience. Some had personally experienced isolation, and several people

shared stories about watching their parents age, even those who had already passed away. By no means were all the participants isolated, and this was not a requirement for participating. We also ran the risk that the topic was completely irrelevant to participants. However, everyone at the workshops had some experience with being lonely, experiencing difficult life transitions, or feeling disconnected through the experience of aging. Nearly all participants lived alone, which is a major risk factor for social isolation. Some discussed what they did to keep busy and that filling their time was a concern. Almost everyone shared personal experiences during our discussion following the video, but there were a couple individuals who remained quiet. Several people spoke about watching their parents age and what they did to help their parents socialize.

"It hurts, it's hurtful. To be that lonely and isolated is very painful." –N

"My mother was 91 and 3/4 when she left this earth, and I invited her to move up here with me. And she said, 'You can't pull an old tree out by it's roots.' –J

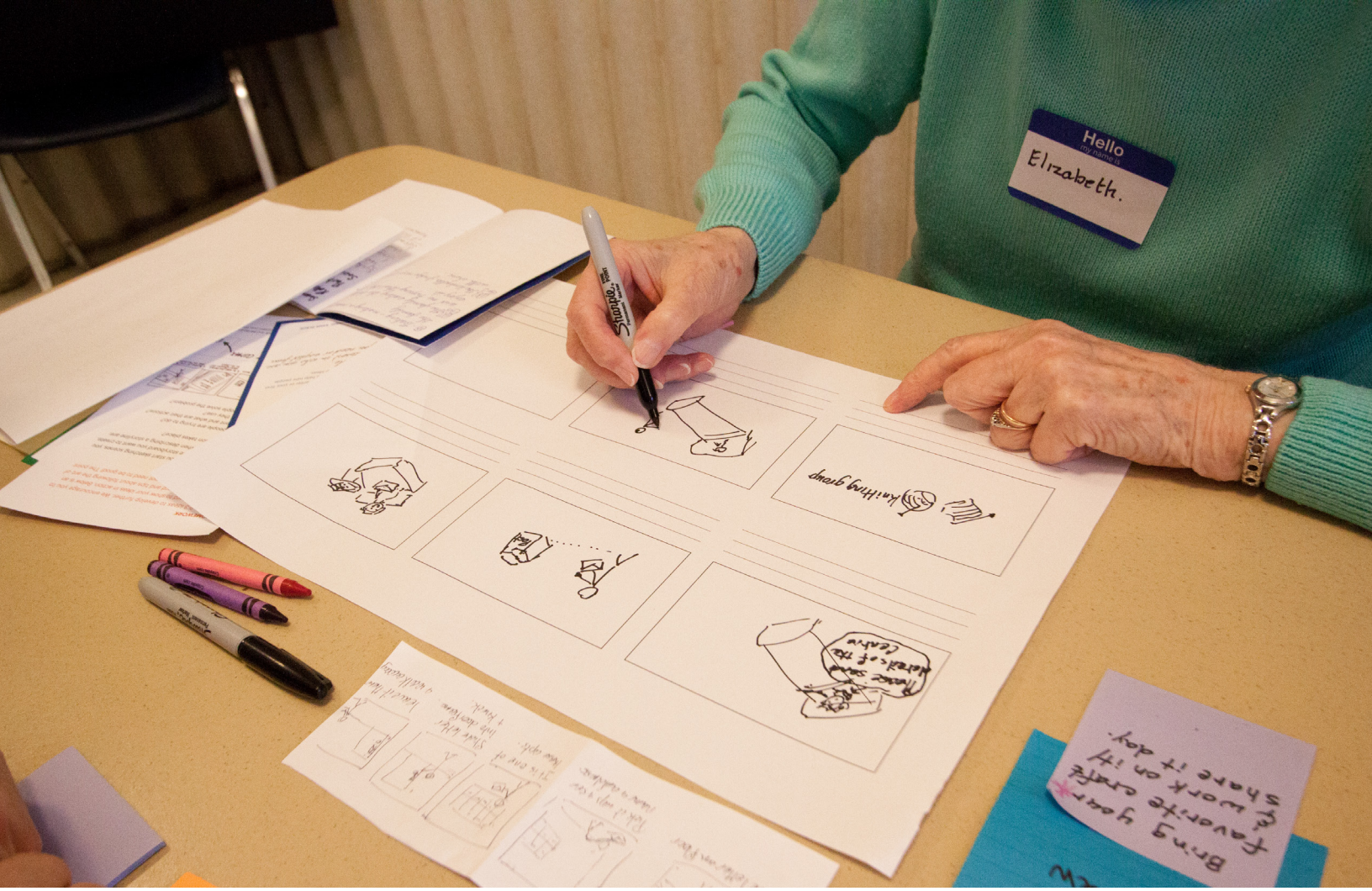
One participant shared that he had recently started living alone after deciding to that his wife should move to a dementia care facility, and it had been a difficult transition for him to move to a senior residential community where he lived alone: "I've been married for 62 years. I had not lived alone except when I was in the service and then you're not really alone…I've never lived alone and it's a whole new experience…I've been kind of isolated for a year, trying to adjust to living alone." –M.

Student engagement

Three undergraduate students from the design program assisted in the planning and facilitation of the workshops: Lea Martin, Joey Zingarelli, and Amber Scoville. They helped document the process through still photos and video, attended to any logistical issues, and helped provide additional instruction and guidance during workshops.

Involving the students had several additional benefits. The first was that the workshop was more appealing as an intergenerational activity. Several participants discussed the importance of intergenerational social interactions, and they cited their positive experience with the students as a prime example. Second, the students were most helpful for facilitating small group exercises during workshops. Additionally, the students helped to plan the workshop agendas and provided ideas and input for engaging and thoughtful activities, especially while reflecting after each workshop. For example, during the first workshop, one participant

had difficulty hearing the instructions and asked Lea to repeat them. Hearing impairments were a concern for participants who had indicated at the start of the workshops that they needed to sit closest to the speaker. Lea reported this hearing issue to the group, and we discussed various ways to mitigate this issue, including reorienting the tables. We also decided that Lea should check on this participant throughout the workshop to help repeat instructions as needed. In these cases, having additional people to help facilitate was critical for ensuring the workshops were inclusive.



Design Interventions

We develop three design interventions: (1) the welcome experience at the senior center; (2) an online tool for meeting people with similar interests; and (3) a debate club during lunch service to invite new people to the table. These ideas each emerged from the final workshop, during which participants presented ideas in small groups. We then used the time during the design sessions to further develop the ideas into prototypes.

Welcome Experience

Three people were involved in the group focused on redesigning the welcome experience for new people at the senior center and how to engage individuals who may be unaware of the resources available at the center. They were interested helping the senior center make improvements and had generated many ideas during the workshops. Using the topic areas identified during the workshops, I structured the design sessions to focus on: wayfinding and signage, the orientation experience, and ideas for involving community members in facilitating the welcome experience.

During the first design session, I asked each person to share how

they first heard about the senior center and how they found their way to it. Everyone in the group had heard about the senior center through a family member or friend. We then discussed transportation and wayfinding. While two people drove themselves, one participant utilized a public van service that offered door to door transportation. The individual using the van service had no difficulty finding the senior center because the drive was familiar with the facility and escorted her down the ramp to the basement and to the front door. Those who drove themselves had more difficulty because it is unclear where the senior center is located in the building when entering from the parking lot. In fact, several people mentioned they had gone upstairs rather than to the basement level and had gotten lost because of the lack of signage. This can be challenging and frustrating for people who are limited in their physical ability to walk.

Participants were provided aerial maps to draw how they typically arrive at the center, and the other possible routes. We then marked printed photographs of building entrances with ideal locations for signage. We then collectively made a list of materials to include in a standardized welcome package, which the center did not yet have in place. There was an idea to include a handwritten note from a member or learning more about what individuals were interested in so they could pair them with "ambassadors" who were already familiar with those programs. For example, if someone came in interested in exercise classes, the front desk staff might share the contact information for a client who introduce them to the various exercise classes and how to get involved. One participant had an idea to make the entryway more personable with a display of photographs showing people who were part of the senior center community.

The second session was focused on materials or objects WCSC could send to people living in senior residential facilities to garner interest in the programs and services at the center. Several participants were interested in helping homebound individuals and one had shared an idea during the final workshop for a mobile knitting circle that could send knitting needles and yarn to homebound people interested in having company while knitting.

The staff social worker had also identified several low income senior residential buildings where she knew there were no direct services available, so there was interest from the organization to invite the residents to the center or identify how to reach individuals who were less mobile. We developed an idea for a package to mail out to people with a hand-written invitation. The idea was to send something with a fun and clever personality so that people would be more intrigued to read more about the center. They wanted to emphasize the plethora of activities available at the center, so we developed an idea for a campaign "Come ____ with us" with the blank filled with verbs reflecting activities at the center. Also, the package would also contain an object affixed to the cover that gave a hint of the activity. For example, "Come stretch with us" would feature the Yoga for Every Body class and the package would contain a rubber band. We sketched several examples for this campaign.

During the second meeting, I could sense that participants were not as engaged and asked, "Is this less interesting to you?" to which they admitted that it was not longer as fun as the workshops. While the participants were generous with their time and willing to help, it was clear that they were losing interest in the activities during design

sessions. I noticed that even when I provided pen and paper and asked people to sketch or write their ideas, they preferred to watch me draw. They explained that were invested in my success with the project and wanted to help, but did not feel as much ownership over the intervention ideas we were discussing. Talking through the details of the design had become somewhat tedious. I assured the participants that we had generated some valuable information and ideas for the senior center and that I would relay this information to the staff. The following week, I met with a staff member to share some of the work that we had done in the group. She was very excited by the concept for the campaign and found the information about locations for wayfinding and signage useful.

In the reflection section that follows on page25, I discuss the potential reasons for loss of interest from this group.

Tool for meeting activity partners

Participants M and H joined the design sessions focused on developing a tool to connect to people interested in similar activities. During the final workshop, they had presented this concept as a sign up sheet located at the senior center. Individuals would be able to suggest activities and interested people could join proposed outings. These two

participants were especially interested in organizing outings. While they enjoyed the senior center and the services offered on-site, they wanted to try new experiences and meet people to share those experiences. However, neither were interested in making a tool to find romantic partners.

M: I'm just looking for someone who wants to do the same thing I want to do.

H: I don't want a boyfriend or anything.

M: Me neither!

During the first meeting we talked through what such a sign-up sheet would look like, but the conversation quickly turned to the difficulties of maintaining the sheet and having to be physically present at the center to reference it. We then discussed the possibility of an online version. Both participants were daily web users and had smart phones, so I asked if they would be willing to imagine this tool as a mobile app. Neither were familiar with mobile applications, yet they were very interested thinking through the design of one. We talked through the necessary features of the app and made a list. I then made rough elementary sketches of how the app might look, which led to more ideas about additional functionality that would be important.

The concept was a simple tool for making suggestions for outings and finding people who would be interested in similar activities. Only members of the senior center would be invited to join, in order to guard against the possibility of strangers and scam artists who might target older people. Becoming a member of the senior center would act as a built-in vetting process, and allow for a level of trust to develop among users. H also attended a different senior center and she suggested that it would be a good way for people of different senior centers to connect to each other. They were also not interested in using it as a chatting platform because they felt that Facebook was already too overwhelming and demanding of their attention.

M and H expressed that this was the first opportunity they had to think about designing an app and it was completely foreign to them, but they were enthralled by the idea. Both participants shared their experiences of feeling like most new technologies were not meant for seniors, and they did not know how to start learning more about new products that might be useful. It was important to H to feel "relevant" and she discussed the classes she took at the local community college in order to keep learning and connect with younger classmates. They also discussed that while they were seniors, as society defined them, they were "junior seniors" and still wanted to go explore various activities in and around the city. It seemed that they were drawing a distinction between themselves and the people who were much older and came to the senior center as their main social activity.

We met a total of five times and in that time the idea evolved from a mobile application to a web application to view on their laptops. During the second meeting, we developed a scenario for individuals

who would meet at the Burke Museum and have dinner nearby. We organized the featured identified in the first session by talking through the scenario and information one would need about the location, the other users attending the outing, and other considerations such as cost. I helped to draw this out as a user flow to capture input from M and H. We also brainstormed names for the service, and decided on the name Jibe.

I translated our sketches into a user flow that I then used to develop an interactive mobile app prototype. During the test of this prototype, it was evident that although M and H were avid web users, they could not understand how to install or access apps on their phones or how information would be stored in the back-end. For example, M asked who would type up the information once a user entered their preferences into the app. This meeting was productive for evaluating the challenges to introducing a mobile app version of this service to people unaccustomed to using apps. It was also clear that lending my skills to the task of developing wireframes of the user interface gave both participants more confidence to provide critical feedback and specify important considerations for the design.

For the remainder of the design sessions, we focused on the design of a desktop browser version of the app. I translated the features and functionality we had identified in the mobile app to a website and created a low fidelity prototype for feedback. They had little difficulty navigating through the web prototype on a laptop, and provided critical feedback for a higher fidelity prototype that they also tested. M and H expressed their enthusiasm and satisfaction with the final prototype. They had already been telling their neighbors and peers about the project. M, who was a retired supermarket manager, shared ideas for how to promote the website by giving presentations and they both agreed that they could see themselves as spokespeople for the service.

Debate club at lunch

The third group met to develop the idea for a casual debate club that would meet during lunch services at the senior center. The idea originated from a comment made by one of the participants who said that she does not typically stay for lunch because she didn't know many people and ended up sitting alone. This was an unpleasant experience for her so she usually went home after her morning exercise class. The debate club, therefore, would serve as a structured opportunity to invite people who were sitting alone at lunch and reduce frictions for conversation. During the final workshop, this group's scenario involved pulling a topic out of a hat then debating for and against the topic. The example they used was the gold standard, and one participant was already well-versed in his argument in support of the gold standard.

There were two participants in this group, and we met only once to talk through a test of the idea. The participants in this group were both interested in keeping the debates casual and friendly, so they decided that the format could be more open. It was also important that the people joining the debate table would be able to discuss anything without having to prepare information beforehand. The two participants did not have much in common, but they both enjoyed the Rants and Raves column in the Seattle Times so they decided to call the debate club Rants and Raves and allow anyone to rant or rave about local current events. We left the meeting with the decision that I would coordinate with the staff about a date that would work best to hold

a pilot test of a Rants and Raves table during lunch.

I coordinated with the participants over email to write a description of Rants and Raves that would be advertised in the center's newsletter and on a poster. I then shared the information with the center's staff who helped advertise for the event.

On the day of the pilot Rants and Raves event, we reserved a table with a sign. Compared to the other groups, I was less involved in this pilot test and focused more on capturing video and still photos of the event. There were four people already sitting at the table, including the two participants who had worked on the idea, and two others who were regular clients at the lunch service. During lunch, they noticed a woman sitting alone at lunch and walked over to tell her about Rants and Raves and invite her to the table. She moved her lunch to the table and they explained the concept for rants and raves. She then shared a rant: that she had been frustrated by the presence of homeless people in her community garden. This started a conversation about gardening and they continued to talk until the end of the lunch service.

After this pilot event, the participants from this group were interested in maintaining Rants and Raves as a monthly occurrence with the support of the senior center staff who would help to promote the activity.

Reflection

"Practice is both action and reflection." –Pelle Ehn

In this section I discuss some findings and reflect on design practices during workshops, design sessions, and time in between. I present the findings that have implications for engaging older people in design work, issues of social isolation, and facilitating a longer-term participatory design engagement.

Inclusive design practices

It was important that our activities be inclusive of the range of abilities represented in the participants due to the heterogeneity of the group and because lack of functional ability is one of the factors for isolation. A common issue was hearing impairment. I noticed that individuals with trouble hearing did not stop to ask questions in front of the group and instead would later ask for repeated instructions. This was similar to an observation I had made that people with hearing difficulties did not disrupt conversations and sometimes ended up sitting quietly, disengaged from the group. Following inclusive design principles, one of our strategies was to present information in multimodal formats. For example, I provided the key terms and descriptions of activities for each workshop on the handouts so that information was always provided both verbally and in writing. Despite my best efforts to speak loudly and slowly, there were still several moments when participants asked one of us to repeat the instructions. We decided we would check with the people with the most difficulty hearing, so that they would have the opportunity to ask questions that may arise.

Despite anticipating for some differing abilities, there was one incident that made me aware of the difficulties with anticipating the range of abilities in a room. At the first workshop, one of the clients who regularly attend the senior center decided to join because she knew me as a volunteer and became interested when she heard about the workshops. D was one of the clients at the senior center who was so kind to everyone that the staff often made the suggestion for anyone new at the center to sit by her. However, as soon as she heard about the camera exercise, she decided to get up and leave. She said she was not good with machines and wouldn't be able to use the camera. I followed D to the coat room to make sure she was all right, and she explained that her poor vision made it difficult for her to use cameras. I offered alternative exercises, but she had made up her mind and opted to go home instead.

Therefore, to be truly inclusive, it is helpful to anticipate these challenges and create workshop agendas and plan for several activities that account for different abilities. This takes more preparation and an understanding of the participants on the part of the designer, but the tradeoff is the potential to avoid alienating older participants with functional decline. Older adult participants will always present this

challenge because of inherent heterogeneity of this population.

Including Older Adults throughout the Process

Planning workshops with R helped establish some questions that may arise during workshops, and how we should explain workshop activities. For example, she pointed to jargon that could be new to some individuals, including scenario, ice-breaker, and role-playing. This helped us structure the workshop so that we defined jargon, included written definitions on our handouts, and wrote new terms on a large poster board at the front of the room. During the first workshop we observed that everyone brought their own notebooks with them and took notes. After seeing that, we made an effort to define terms and concepts at the start of each session.

It was on R's recommendation that we build in time for casual conversation, or chit-chat. She felt this was important because we were encouraging participants to consider what enables more social interactions. She emphasized that workshops and design sessions should remain fun. These observations contradict the recommendation by Lindsay et al.27 to keep meetings clearly focused on relevant topics. Instead, we found that allowing for the participants to share personal stories helped strengthen dynamics in the small group activities, especially compared to groups who had difficulty working together because they did not agree with any of the ideas shared by other people in the group. In particular, the individuals who attended all three workshops would save seats for people with whom they had already been grouped. On the other hand, the challenge of allowing participants time to chat was to then have them return their focus to the workshop activities. Regardless, we could immediately see the value in allowing the participants to get to know each other.

Challenges to longer-term engagement

Maintaining an 'infrastructuring' approach to PD presented multiple challenges. First, there were some inherent logistical difficulties with maintaining a five-month long project involving multiple groups of individuals working on several different projects and continuing a positive working relationship with the partner organization. In this section I reflect on challenges to sustaining a participatory design approach due to varying levels of ownership felt by individual participants, loss of interest over time, and making longer-term commitments beyond the time boundaries of the project.

Reflecting on the challenges I described with the first group (redesigning the welcome experience), I describe how they can be linked back to some core principles of PD. Some individuals in this group felt more ownership over the project than others, and as we discussed finer details about logistics or practical constraints, participants expressed less interest during design sessions. During the second meeting I could sense the momentum slowing and realized that many of the design decisions and input participants were providing had become work-like tasks, and no longer the learning experience they desired.

The issue, in hindsight, was an imbalance of mutual learning. Mutual

27 Lindsay et al., "Engaging Older People Using Participatory Design."

learning is considered an important aspect of PD practices to allow for respect and the exchange of knowledge. During the workshops we were able to maintain mutual sharing, as participants felt that they were learning about the design process as much as they were sharing their ideas for addressing social isolation. However, during the design sessions focused on the welcome experience, the dynamic of mutual learning shifted. Design sessions were structured to focus more on gathering participants' input on the ideal welcome experience, and no longer addressed the group's desire to learn. While we had emphasized the learning experience during workshops, I had neglected this aspect during the smaller design sessions. This is especially relevant within this context and with this population, for whom the exploration of creative outlets and cognitive stimulation are of interest.

This example also highlights the challenges of managing expectations for what can be accomplished with respect to the time boundaries of the individuals involved in a PD engagement. For this project, there were several students involved on a quarterly basis, so while it was an ideal to approach design through a lens that moves beyond the design project, in practice this is not always achievable within the external time constraints of a graduate program. I am hopeful and excited by the challenge of designing of future social relations, as described by Light and Akama.28 I do believe that the individuals who were involved in Rants and Raves were willing to and interested in sustaining the initiative, and that the group who worked on the Jibe application have already communicated their interest in developing the website. However, realistically, it is evident that those initiatives have lost momentum in my absence. While I have committed to continue working with the senior center and the people with whom I have developed relationships through this project, I realize this is not a commitment every designer would be willing or able to make.

This project leaves remaining questions about how to structure PD engagements involving students and community members. Further work is needed to understand how best to structure partnerships with organizations who may be willing to develop and sustain a culture of participation beyond the typical boundaries of a design project. For instance, how to guide individuals who are interested in engaging their peers in participatory activities to identify additional concerns. Finally, the need to revisit he issues of aging is inevitable because the experience of aging will continue to evolve with each generation, with new issues and opportunities arising.

28 Light and Akama, "Structuring Future Social Relations: The Politics of Care in Participatory Practice."

Conclusion

This project reinforces the notion that design is a social activity and an ongoing process. The incredible thing is that any designer, with some labor on her part, can initiate relationships, discussions, and actions starting "from scratch." But with that comes a responsibility to honor and respect the generosity of all those involved whose contributes can lead to real transformations.

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Committee

Tad Hirsch
Kristine Matthews
Nancy Hooyman

Facilitation and documentation

Lea Martin
Amber Scoville
Jœy Zingarelli
Chad P. Hall

Staff at WCSC

Victoria Dzenis
Sarah Frey
Ashley Larson
Kathleen Cromp
Ray Levine

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Workshop 1 Agenda

2:35-2:40 (3 min)	**Introduction** Introduce ourselves Ask if anyone is bothered by cameras for documentation Overview of the workshop agenda
2:40-2:50 (10 min)	**Ice breaker** *Say your name and answer the question: if you had a time machine, what point in time would you travel to and why?*
2:50-2:53 (3 min)	**Brief overview of project** -Social isolation among older adults -Participatory Design: everyone has knowledge to contribute
2:53-3:05 (12 min)	**Show video: Junk Mail** Following video, ask participants to reflect *Now we want to hear from you. Have you had this experience of having time on your hands? What is challenging about it? Do you know others who have faced similar challenges as they age?* Participants respond. *Next we will move on to our first design challenge. One of the ways people get involved and connect with others is through senior centers like this one. We'd like your help to think about how to help build these connections and help make people feel welcome so they can plug in.*
(10 min)	**Introduce Design Challenge** "Redesigning the welcome experience at the senior center" *Think back to your first time at this senior center. If it's your first time at a senior center, everyone has had the experience of being new, so think about those moments. What aspects of the welcome experience are important to make new people feel welcome?* Individual worksheets of questions You are designing for someone new at the senior center. -How should this person feel? -What should this person see? hear? smell? -Who should this person meet? -What elements of the experience are most important? What are some ways to achieve this? Write down some initial ideas.
10 min	**Ideation**

Fig A1
Example of workshop agenda notes

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Appendix

Workshop 1 Agenda

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2:40-2:50 (10 min)	**Ice breaker** *Say your name and answer the question: if you had a time machine, what point in time would you travel to and why?*
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(10 min)	**Introduce Design Challenge** "Redesigning the welcome experience at the senior center" *Think back to your first time at this senior center. If it's your first time at a senior center, everyone has had the experience of being new, so think about those moments. What aspects of the welcome experience are important to make new people feel welcome?* Individual worksheets of questions You are designing for someone new at the senior center. -How should this person feel? -What should this person see? hear? smell? -Who should this person meet? -What elements of the experience are most important? What are some ways to achieve this? Write down some initial ideas.
10 min	**Ideation**

Fig A1
Example of workshop notes

WORKSHOP ONE

JAN 28, 2016

2:30-4:30pm. Today's workshop will be facilitated by UW Design students Catherine Lim, Lea Martin, and Joey Zingarelli

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DESIGN CHALLENGE

Redesign the Welcome Experience at the Senior Center

Think back to your first time at the senior center or your first time being new anywhere. How might me help new people feel welcome? Write down some initial ideas.

JOIN US AGAIN ON FEB 4 AND 11. SAME TIME, SAME PLACE.

Fig A2
Example of workshop handout

Fig A3 (above)
Thesis exhibit at the Henry Art Gallery

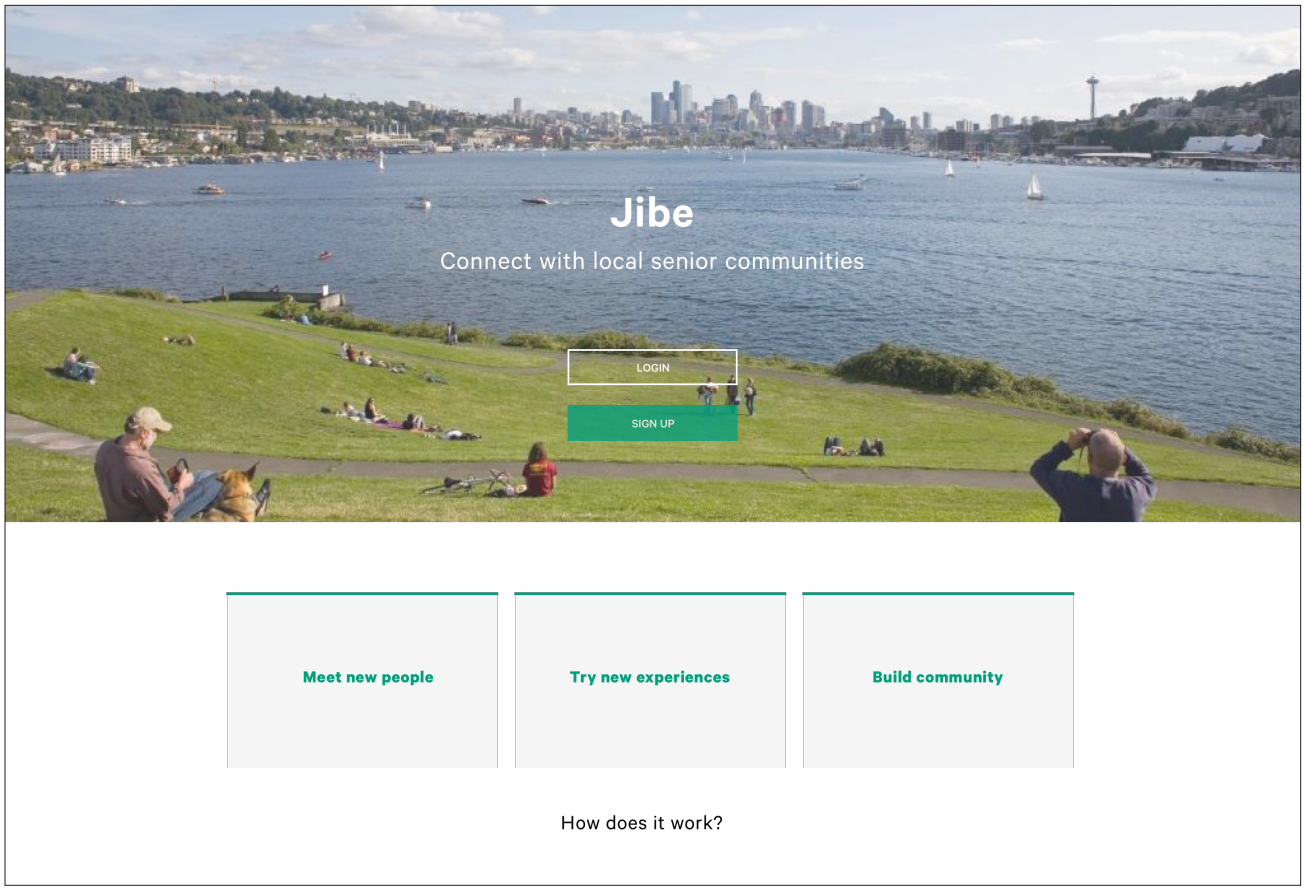
Fig A4 (right)
Visitors to the Henry Art Gallery

Welcome Experience at WCSC

Experience Map

TOUCHPOINTS					
Web	Google search or through online referral	Online directions		For those with email, sign up for the newsletter.	Receive email updates
Phone call	Member calls WCSC to ask questions	Directions given over phone			
In-person	Walk-in traffic		Any volunteer stationed at the front desk is able to assist new member.	**Suggestions of programs**, tour of the space, introductions	
Print	**Personalized invitation from another member**	**Map included in invitation**	**Guidelines for front desk volunteers welcoming new members**	**Welcome package given**	Welcome package acts as takeway at home
Spatial		**Wayfinding at entrance**	**Entrance is clearly marked with updated signage and less clutter**		
STAGES	INITIAL ENTRYPOINT	TRANSPORTATION	FIRST ARRIVAL		FOLLOW-UP
MEMBER ACTION	Member calls to ask questions about programs available. A volunteer routes the call to a staff member. Member receives an invitation from a current member to a specific event.	Member drives to the Good Shepherd Center and parks the car in the parking lot or takes the bus and finds their way to the center. Member walks up, almost walks up the stairs but finds wayfinding down the ramp and through the hallway.	Member arrives at door and notices signage around the doorway. The reception staff or volunteer greets them with a smile. The member clarifies that it is his/her first time. The staff/volunteer asks "Are you here for something specific?" If yes, the staff provides more information, but if not, then they offer to make a suggestion based on what the individual enjoys. Starting with categories of programs, they are able to help the member learn about the various programs available. The goal is to invite them to something specific.	Staff/volunteer offers member a cup of tea or coffee, and if they are occupied to make themselves comfortable. The welcome package helps to walk through the basics about programs, price, and activities. Staff/volunteer explains the typical sign-in process. Staff/volunteer gives a tour to orient the new member to the space and introduce the various types of regular activities. Back at the desk, staff/volunteer describes the membership offering to member.	Member reflects on whether they enjoyed the experience and if they will return.

Fig A5
Welcome Experience Map



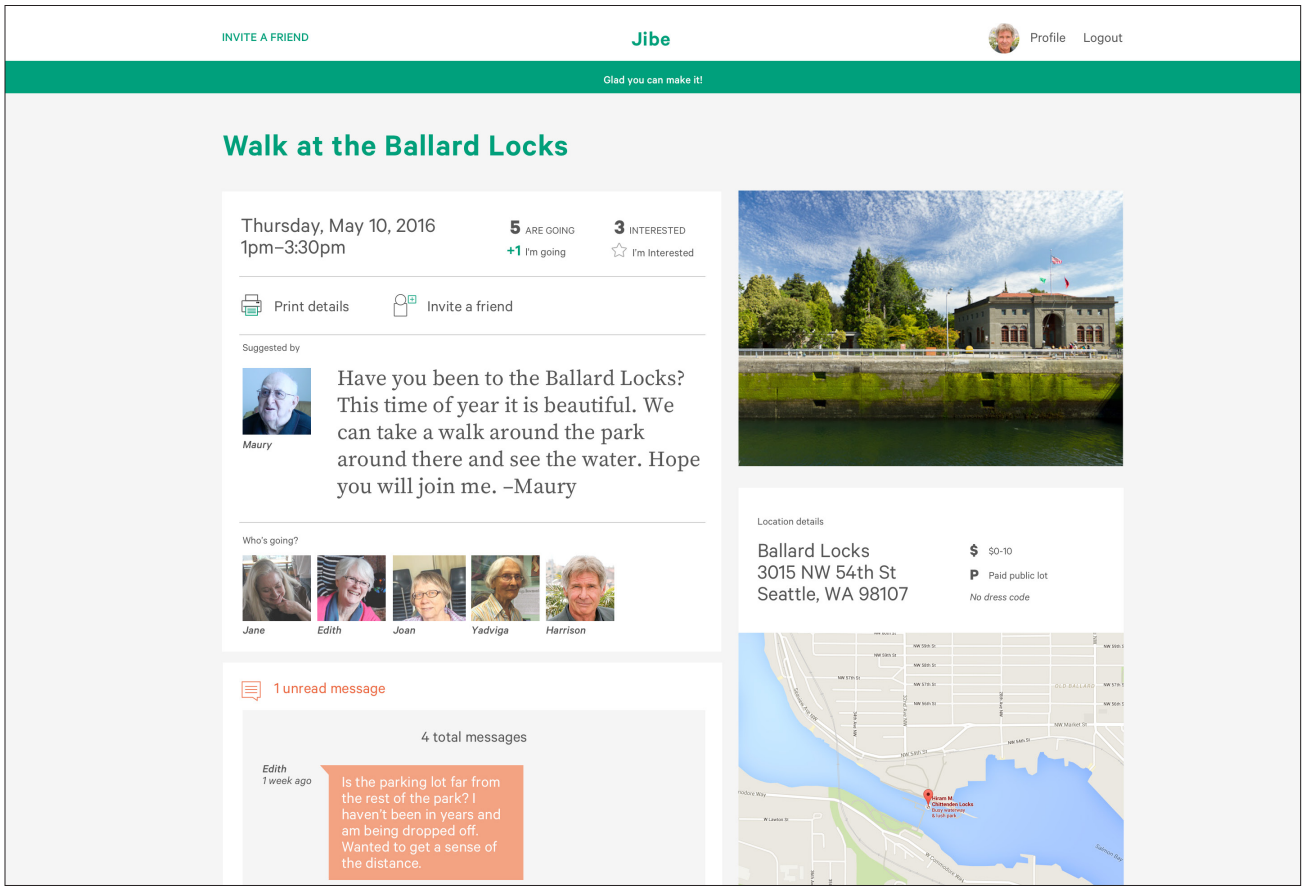


Fig A6–A7
Jibe prototype screens