

n e x u s

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Problem and Solution Overview

After completing our initial six contextual inquiries, some main takeaways we grasped were that senior residents are very dependent on the apartment community, and most of them lack the technologies and technical skills to make them more independent and better interact with each other and the greater surrounding community. Since most do not rely on technology to connect with others or obtain the resources they need to perform certain activities, their schedules are very limited to the interactions they have within the apartment community and the information they obtain directly from the staff.

Furthermore, some residents expressed interest in a mentor-mentee relationship. However, the mentor-mentee relationship must be a two-way relationship, in which both parties are eager to teach and learn from each other.

Contextual Inquiry Target, Stakeholders, and Participants

Six contextual inquiries were completed. The contextual inquiry participants include some potential users; retired seniors. The participants were chosen because of our access to them - not from a pool of participants. They are all current residents of retirement communities in Washington State, and have been for at least a few years.

Mrs. A is 66, graduated high school from Ohio, and moved to California until she retired. Mrs. A has always been interested in new technology. She said that the world without internet will be much slower and not very good. She spends at least 3 hours a day serving internet. She likes Pinterest because it inspires her to do a new projects. Even though Mrs. A is a happy person, she occasionally has a hard time finding an interesting activity to occupy her day.

Mr. B has lived in the CA, Seattle, and Hawaii. He was a religion/philosophy professor at the University of Hawaii, and was drafted for the Korean War in 1953, after graduating college. Mr. B is an avid reader. He also acknowledges the importance of technology. He values technology companies like Amazon that provide him access to books. However, he believes that social media sites such as Twitter and Facebook are a distraction, especially to his research. He obtains news through newspapers, listening to radio commentary, and television. Having lived in a many different areas, he has a thorough understanding of different cultures. He is very knowledgeable and has a lot of life lessons to impart.

Ms. C is 92, was born in and went to college in Indiana, and then moved to Arizona. She later moved to Seattle because her daughter moved here for a job. Mr. D (in his 80's) moved here from west New York. Both of them have no experience with technology, and do not use computers or smartphones. While there are computers in the apartment community, only about a quarter of residents use it (or know how to use it). Ms. C even shows her dissent for phones. She finds it absurd that young people can be together in group and not talk for hours, just staring at their screens.

Ms. E is 93 and used to be a neighbor of one of our team members, but a couple years ago she moved to Olympic View Apartments, a senior affordable housing apartment complex in Edmonds. She stays in touch with family and friends mainly through phone, email, and personal visits. She uses Facebook to look at everyone's pictures, but mostly just uses News Feed. She regularly runs into problems with the technologies she uses and usually waits for her grandson's next visit to fix any tech issues.

Contextual Inquiry Results and Themes

After completing the initial six contextual interviews, some main takeaways were that senior residents are very dependent on the apartment community, and most of them lack the technologies and technical skills to make them more independent and better interact with each other and the greater surrounding community. Few of them use a computer on a regular basis and even fewer have smartphones, so the potential design for the target audience may not require much of a learning curve. Furthermore, some residents expressed interest in a mentor-mentee relationship. However, the mentor/mentee relationship must be a two-way relationship, in which both parties are eager to teach and learn from each other.

Few residents are content with the day-to-day activities that the retirement community staff organizes. One common theme we noticed from our interviews is the desire among these individuals to initiate and sustain organic relationships with their families, friends, and other community members. Since a number of the apartment activities occur within the senior living complex and with other residents, these individuals do not often get the chance to interact with people of different ages and skills. They aspire to stay relevant in the society, by being engaged in conversation and staying in touch with other people outside of their retirement home community. Residents come from all walks of life and have a variety of extensive knowledge to share. Some residents have expressed interest in a mentor-mentee program, which would promote social interactions and provide an opportunity to share their skills and life experiences with members of the local community. This would help them meet and stay in close contact with younger generations of the community, all while imparting a lot of their wisdom on other community members.

The communities typically provide and organize various scheduled activities for the residents, however our conversations with the elders suggested that many of the residents are seeking more activities outside the schedule still. Even if their physical limitation may not allow them to be as active as before, several interviewees conveyed that life gets relatively slow as they spend more time in their apartment homes than they wished to. They would rather to spend more time outside the complex and stay connected with the local community. The residents may be searching for a simple tool to help them find activities in the surrounding community to engage in with other residents. Many of them currently engage in various organizations and activities outside of the apartment community, and want to share these involvements with greater community. Providing these individuals with a way to share their activities in the surrounding community would help them get to know each other better in a different environment and bond over common interests.

Answers to Task Analysis Questions

Task Analysis

1. Who is going to use the design?

This design will be useful of elders who live in an independent living home.

2. What tasks do they now perform?

Most tasks are scheduled by the calendar of activities. Since certain activities/group errands occur at only certain times of week, it makes the residents very dependent on the schedule that the senior living community provides them. Some examples include group visits to local grocery stores and doctors clinics that only occur at specific times during the week, social activities, and writing classes.

3. What tasks are desired?

Tasks that promote independence and social interactions. Desired tasks include: mentor-mentee matching, and creating events independent from the calendar.

4. How are the task performed?

Residents interact with a TV channel in an assisted living home. The application contains a list of tasks and functionality that a resident can simply use a remote control to navigate and select.

5. Where are the tasks performed?

Tasks are performed in an assisted living home. A resident access the application through a central or personal TV channel.

6. What is the relationship between the person and data?

Any resident in an assisted living home may have an access to information on the application. For the mentor-mentee matching tasks, the user may choose their own choice of the privacy level.

7. What other tools does the person have?

Residents may have a hard copy provided by the community.

8. How do people communicate with each other?

Residents communicate via a mail box in the TV channel.

9. How often are the tasks performed?

The application is available at all time. Residents may access to the application at their own convenience. The mentor-mentee matching tasks may repeat as long as there is a request from mentees.

10. What are the time constraints on the tasks?

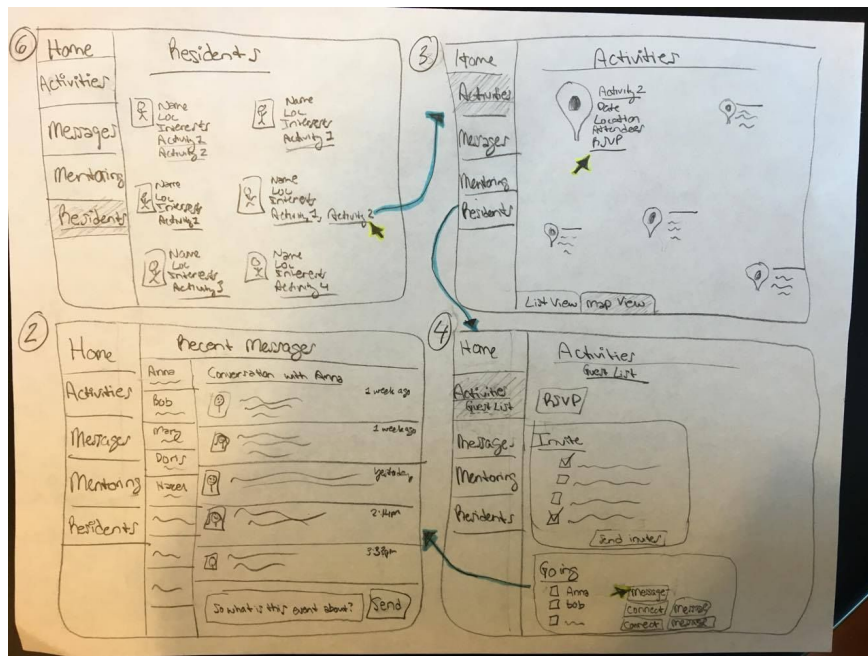
Tasks are strictly limited to the schedule determined by the apartment community, printed on their monthly calendar. The residents' daily schedule is limited to the times listed on the calendar. Residents' daily schedule is usually constrained between the hours of 9am and 6pm.

11. What happens when things go wrong?

Our contextual inquiry showed that if a resident wanted to do a certain activity within the greater community that doesn't align with the apartment schedule, they would be limited in alternative options. For example, if a resident wanted to go to a jazz concert in their city and round up some other residents to join, then he/she would have to figure out how to travel there and would have to organize everyone by word of mouth.

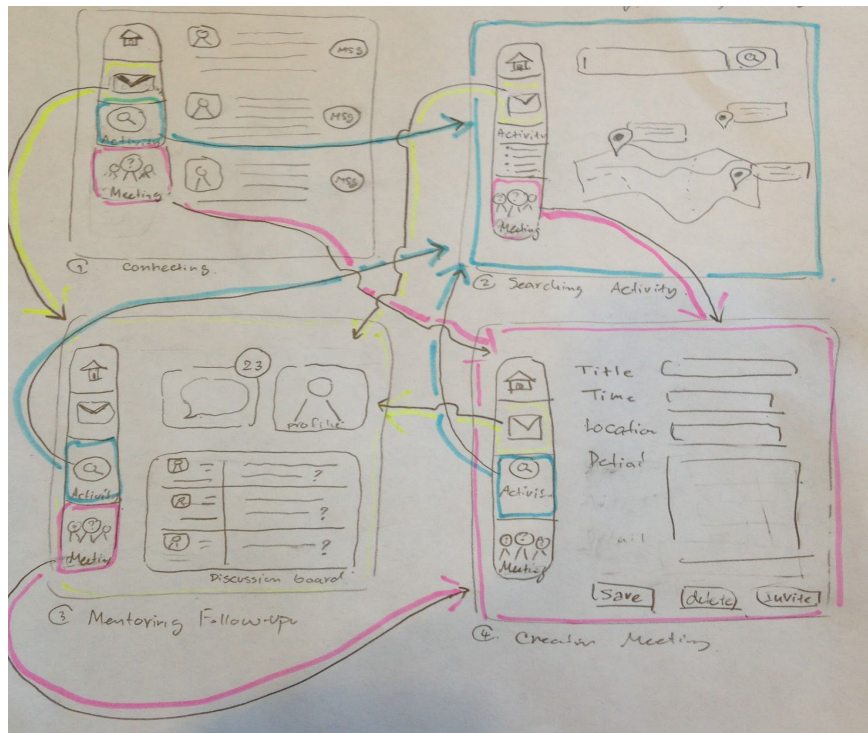
Proposed Design Sketches

Sketch #1



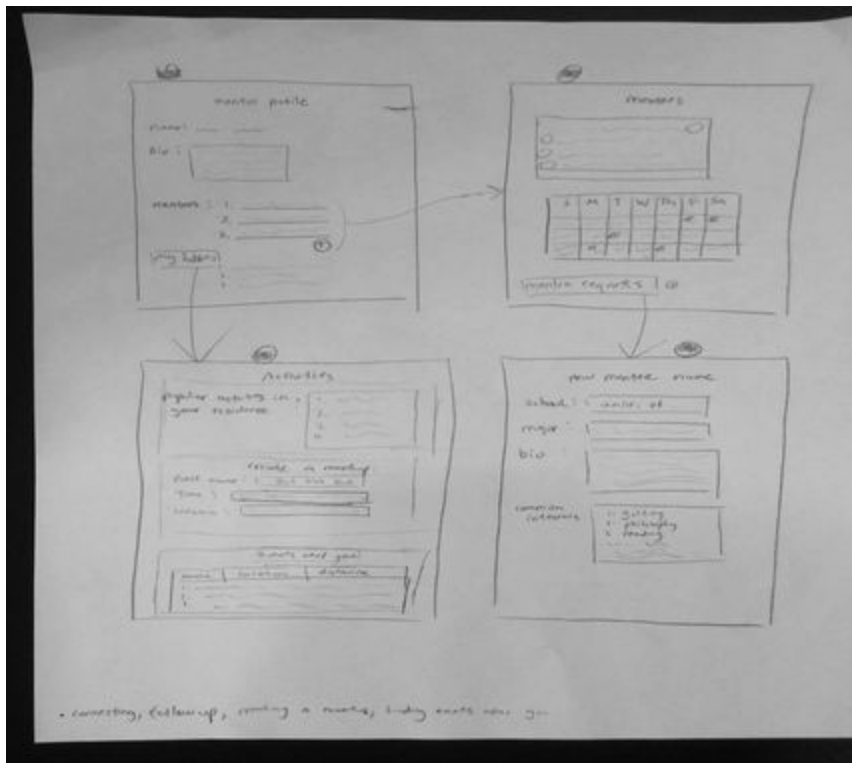
The flow of this sketch incorporates the tasks of finding residents with the same interests, finding activities nearby to attend, viewing what other residents are going to an activity/inviting friends to attend, and following up with / staying in touch with other people. This sketch lays out how connecting with other residents and going to activities are strongly related. An individual could see that another resident with many of the same interests as them is going to an event which they haven't heard about yet. They click on that event page to find out more about it, and from there they can RSVP, see what other residents are attending that activity, and can connect with those residents through the messaging task.

Sketch #2



The system supports four different tasks, including Mentor-Mentee Connection(task 1), Mentor-Mentee communication(task 2), Searching Community Activity(task 4), and Creating Meeting/Event(task 6). The sketch show how to navigate to all the tasks. Each icon is linking to each specific task. The design allows users to switch to any task directly through the menu icon on the left side. There is also a *Home* icon where it takes the user to any other possible tasks not included to this sketch.

Sketch #3



This design addresses the tasks of: **Initiating new mentor/mentee connections, following up on mentees, starting a meetup, finding activities/hobbies of other residents, and finding nearby activities in the city.** This design incorporates an interface that will allow residents of independent living homes to input information about themselves, view activity details, and keep in touch/connect with new mentees.

Paragraph discussing choice of design

Based on our user research, we found that residents of independent living home did not use or interact with technologies that we are familiar with, such as: mobile phones or web apps. Our proposed design sketches were in the format of an web app, which would not be suitable for the users. As such, we have decided to include some of the features in a different interface. The interface that we decided on was an interactive television. Resident homes use a community television in order to disseminate information. An interactive television would be based on the familiar, traditional television. This design would provide a smoother adoption of the new technology.

Written Scenarios

Task 1 - Initiating new mentor/mentee connections

Mr. A has been feeling very lonely lately. He only gets to talk to his family once a week; and other members of the home every few hours. As a person with an expansive knowledge of life, he would like to mentor a student from the University of Washington. He has expertise in electrical engineering, and his interests include politics, and the TV show *Jeopardy*.

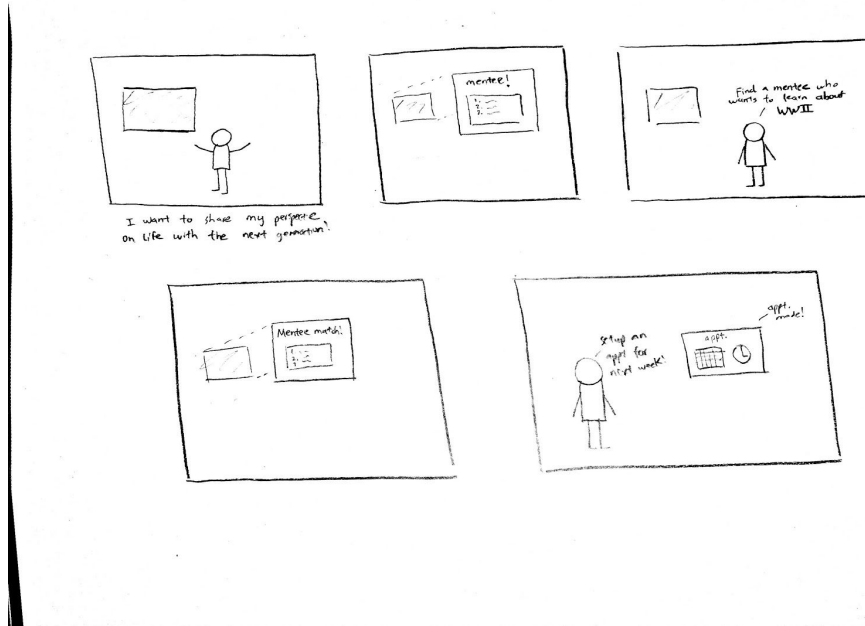
He then proceeds to a community TV screen with Nexus on it and uses one of the voice commands. "Nexus. Is there anyone who I can help mentor?". The system has his interests and expertise stored, and suggests potential mentees. Mr. A can then proceed to dictate a message to send to the student. The student can accept the connection requests if she chooses to.

Task 2 - Starting events/activities/meetings

It's 9:30am in Seattle and Mr. B is all ready for the day. Sadly, nothing on the community calendar excites him. Usually, on days like these, he would just sit in the lobby and try to pass the time. Today, he walks up to Nexus, and says "Nexus. Create a new event". Nexus then loads a form where Mr. B can dictate event details including title, location, time etc. Alternatively, Mr. B could enter in the event details manually in case the voice command is not accurate. Once he is happy with the details, he can proceed to invite some of his peers and mentees.

Storyboards of the Selected Design

Sketch 1, Task 1 (Initiating new mentor/mentee connections)



Sketch 2, Task 2 (Starting events/activities/meetings)

