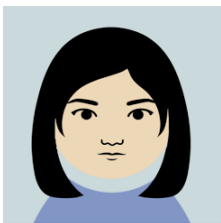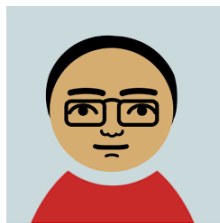CSE 440 AA
May 27, 2016
Final Report

neighborly

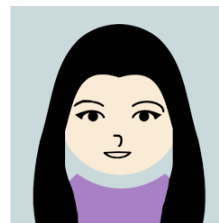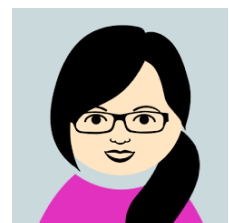**SAVVY TEAM MEMBERS**

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PROBLEM AND SOLUTION OVERVIEW

In today's world, developing valuable skills is essential for finding success. Many of us go through schooling but never pick up certain skills we're interested in, whether it's cooking, gardening, or playing music. Resources are available online, but these can only go so far. Classes may be available on the subject, but this barrier to entry may be enough to halt your curiosity. Sometimes you really just want to get in touch with someone else familiar with the craft. Fortunately, there may be someone within your very own community already well acquainted with the skill you seek. This presents a great opportunity for members of a community to develop skills while bonding over mutual fascinations. The aim would be to engage communities through their passions and interests, connecting individuals and picking up new skills along the way. The problem is, it can be tough to know who nearby is capable of this sort of collaboration. Our team sought an effective method of making these connections. We ultimately settled on a social networking app with game-like elements. The main view is a virtual room filled with your neighbors' avatars, clearly displaying their names and interests. Users will be able to interact with their neighbors, discuss their passions, and seek out those with similar interests for direction and collaboration. The solution provides a fun way to get people talking and sharing their talents.

INITIAL PAPER PROTOTYPE

Critical Aspects
Our solution is fundamentally an application you would use on your smartphone. Following initial profile setup, the user is led to a virtual room filled with their local neighbors. From here, you are able to filter down your options of locals to view and connect with those you find fascinating.

Overview
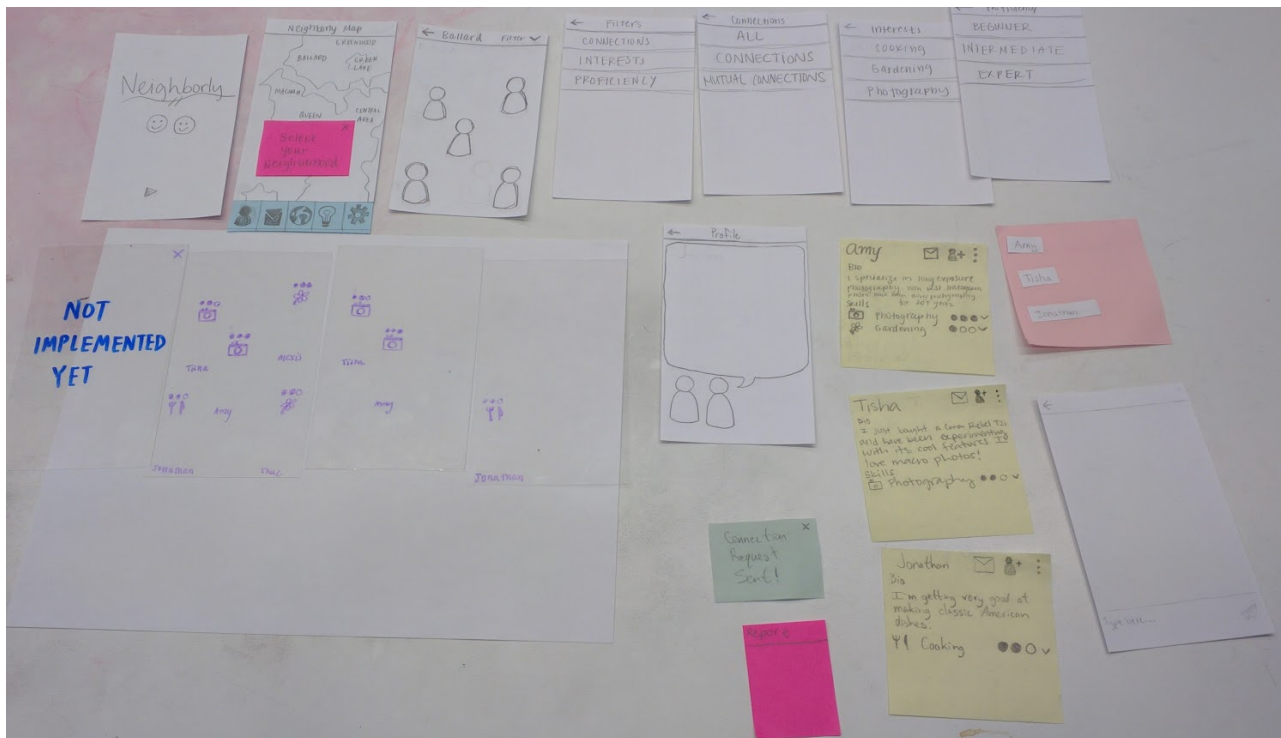
Primary Tasks

Task 1: Getting to know neighbors through their hobbies and interests
You have just moved to Ballard. You have completed making your avatar on Neighborly and adding the following interests and skills to your profile: cooking and photography. You don't know anyone in this area yet and want to strike up a conversation with a new neighbor about a mutual interest.
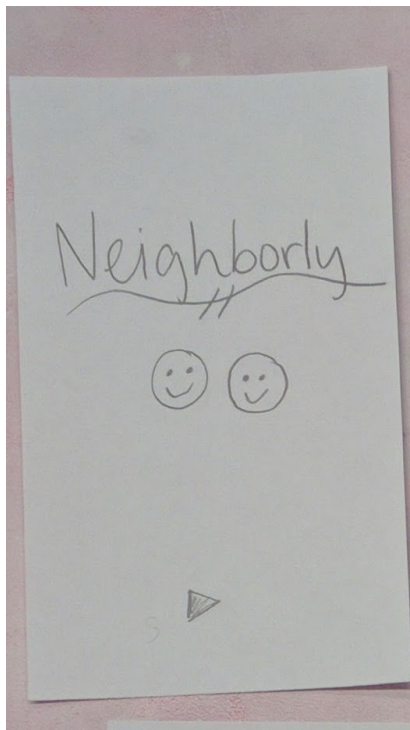

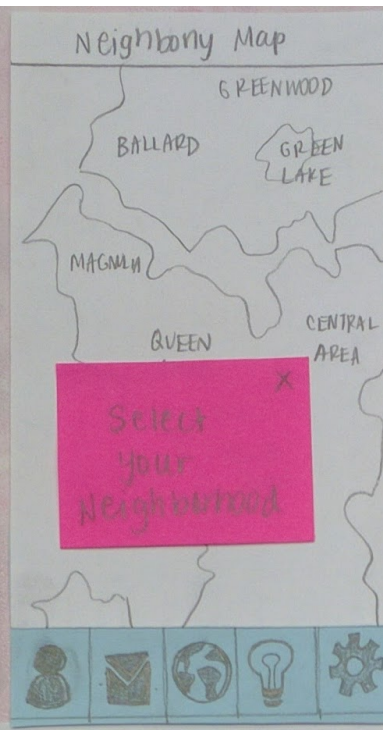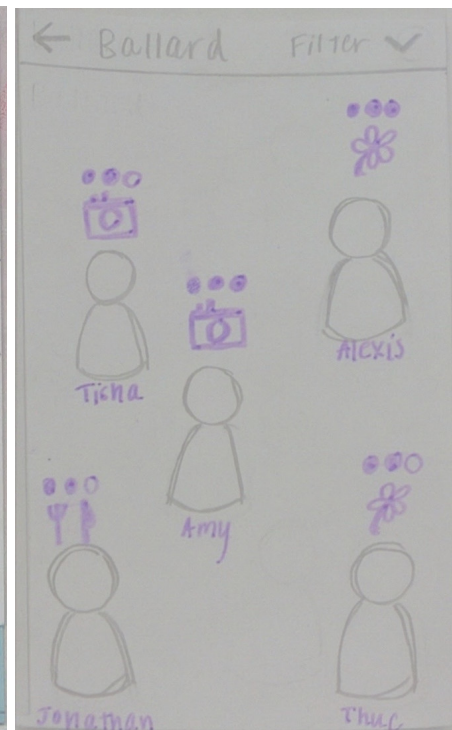|		
Figure 1.1	Figure 1.2	Figure 1.3

Figure 1.1: The user is welcomed by an opening splash screen. We are assuming the user has already created their profile. Tapping anywhere on the screen results in a transition to the city map (Figure 1.2).

Figure 1.2: A map of your detected city is shown along with a popup saying to select your desired area. Tapping the X on the popup or anywhere outside the popup will cause it to disappear. Tapping a neighborhood proceeds to the next screen (Figure 1.3). The bottom left button goes to your profile. The envelope button goes to your messages. The globe button goes to this map screen. The lightbulb button would be intended for suggestions of neighbors. The gear button goes to app settings. Most of these were not implemented at this time for our prototype.

Figure 1.3: A room is filled with avatars representing your neighbors. Each user has their name, primary skill, and proficiency displayed with their avatar. Filters can be accessed from the button at the top right. Tapping an avatar brings you to their profile (Figure 1.4). From here, the user can see individuals with a skill they're interested in, so the user can select one directly.
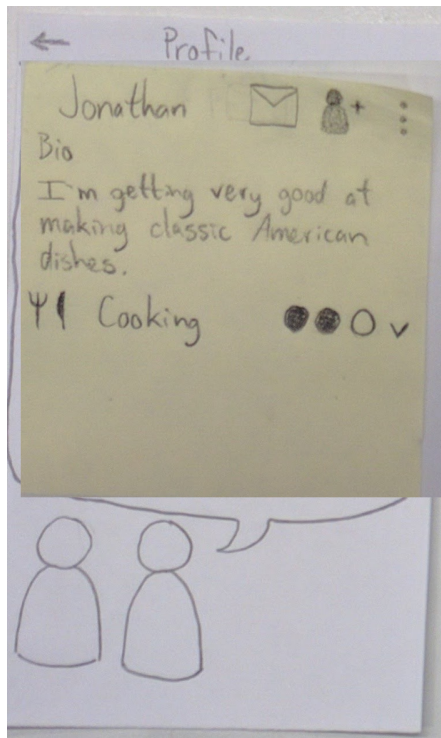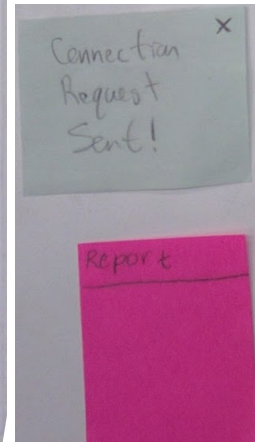
Figure 1.4   Figure 1.5   Figure 1.6

Figure 1.4: More details about the selected user and displayed in their profile. You see a short biography provided by the user, any skills they are interested in, and their current proficiency levels in those skills. Tapping the envelope goes to the messaging screen (Figure 1.5). The following button sends a connection request (Figure 1.6). The three-dotted extra options button to the right will give the option to report the user if issues arise (Figure 1.6). Tapping the arrow next to proficiency levels shows details on the user's history with that skill (not implemented).

Figure 1.5: Here the user can tap in the text box to write a message. This satisfies the task's ultimate goal.

Task 2: Seeking local enthusiasts for questions and collaboration

You've been working on your photography skills for the past two weeks. Lately, your photos have been very blurry and bright. You're still learning about shutter speed versus aperture settings, but haven't quite gotten the hang of it. You want to find someone nearby who is qualified enough to answer your questions about why your photos have been problematic.
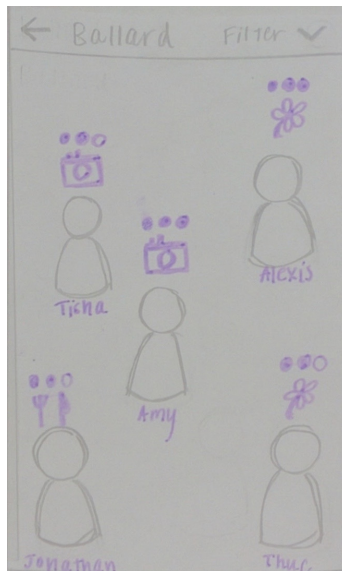
Figure 2.1

Figure 2.1: This task starts from the community room itself. With the stronger requirements for the desired individual, the filters will prove more useful than in the previous task (Figure 2.2).
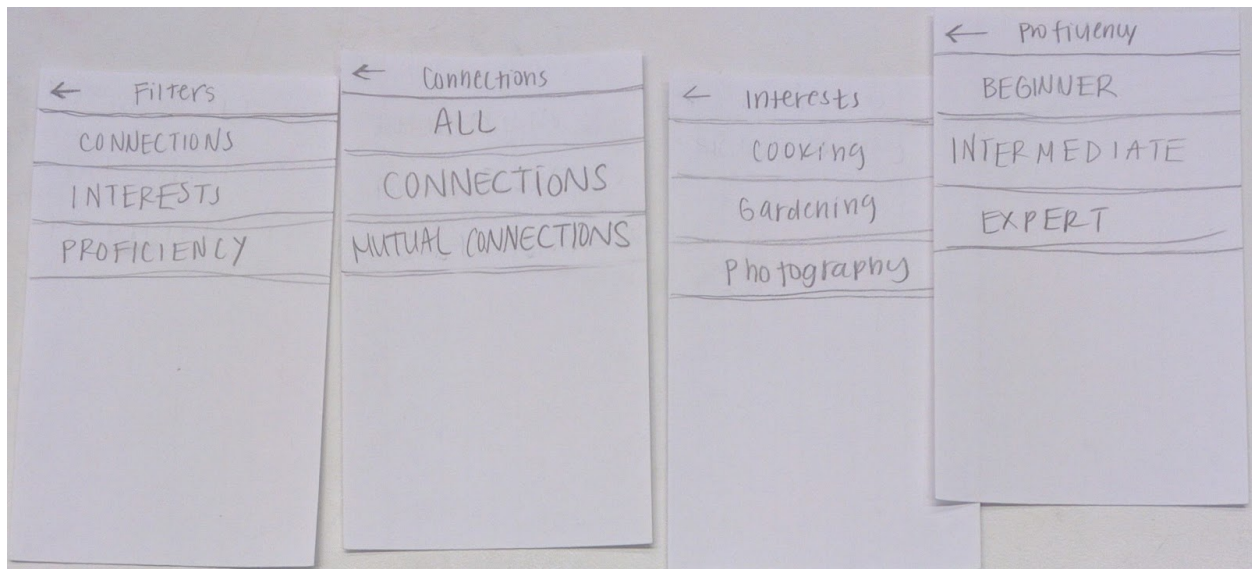

Figure 2.2

Figure 2.2: Different focuses can be added through these menus. They start from an upper level Filters screen in which you may seek further through your connections, your interests, and neighbors' skill proficiency. At this point, there is no way to clear selections or select several filters.
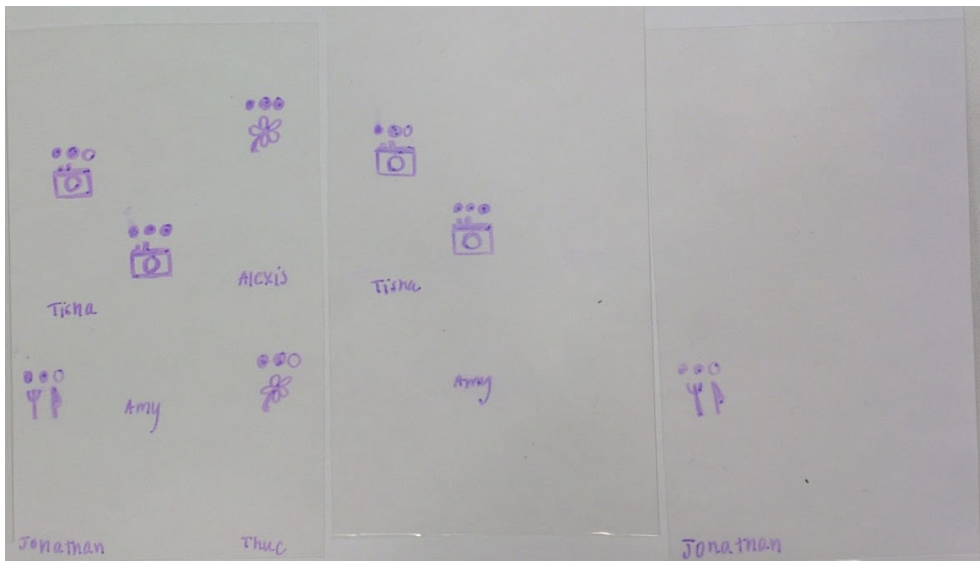
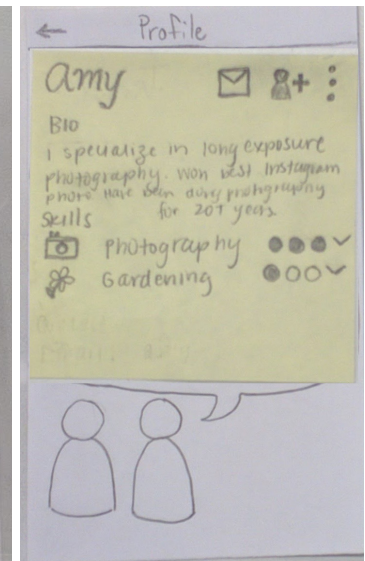Figure 2.3   Figure 2.4

Figure 2.3: These are overlaid above the community room screen (Figure 2.1). Users do not disappear when you use a filter; details disappear instead, leaving only the desired options to view. With the more useful filtered view, the user can more easily locate someone meeting their requirements for the photography difficulties.

Figure 2.4: The selected user seems quite experienced and will likely be helpful with photography issues.

TESTING PROCESS

Once we created our paper prototype, we conducted multiple tests, which led to revisions and improvements to our design.

Heuristic Evaluation

Method
For the heuristic evaluation, a participant went through our two tasks while writing any violations down on a notecard. Moreover, the participant writes what aspect of our design violated what specific Nielsen Heuristic. The 10 heuristics we focused on were: visibility of system status, real world match, user control, consistency and standards, error prevention, recognition, flexibility and efficiency, aesthetic and minimalist design, recovery from errors, and help and documentation. We then evaluated how severe the violations were to help prioritize our revisions.

Participants
The heuristic evaluation was done as part of a in-class activity with a classmate as our participant. Half of our group conducted the heuristic evaluation: Thuc was the notetaker, Alexis was the computer, and Jonathan was the facilitator. The evaluation provided helpful feedback that led to changes with how the computer responds to certain user actions, filter menu, and labels for icons.

Usability Tests

Methods

We introduced ourselves and stated that we were part of a design class in which we created paper prototypes for an application called *Neighborly*. The tester was informed of the application's capabilities, allowing neighbors to connect and get to know one another through particular interests. Potential use cases were discussed, including an example that if someone was looking to learn a certain skill, they could use *Neighborly* to find someone nearby with the ability to teach that skill. We proposed two tasks that each participant was to complete: the first was to meet someone in their new neighborhood with mutual interests, while the second was to get advice from a local enthusiast. We told the participants to imagine the paper prototypes were actual screens of a phone and informed them that we would not be able to answer all of their questions because we wanted to see how they would use the application without guidance. In addition, we asked them to think out loud about their expectations, what they were doing or trying to do on the app, and any questions or comments they had about our system. We took notes on any incidents or comments about problematic parts of our design and again, rated those based on severity to guide our revisions.

Participants

We conducted usability tests with three participants on the UW campus.

Test 1: Our first usability test was at Allen Library Research Commons with one male participant, who we approached because he was sitting alone and was not busy at the time. We chose the library because it is convenient for the team to meet and because it is not too loud and distracting. Amy was the observer taking notes, Tisha was the computer, and Thuc was the facilitator. The participant went through our two main tasks and provided a lot of feedback, which led to changes to our map, wording in filters, friend request status, and suggestions feature.

Test 2: Our second usability test was at Suzzallo Cafe with a female participant, who we approached because she was an acquaintance of one of our team members. Although it is not ideal to conduct usability tests with people we know personally, we still received feedback that was honest and valuable through the process. The participant went through our two tasks after they were reworded for clarity. Jonathan was the observer taking notes, Amy was the computer, and Tisha was the facilitator. We received feedback that led to changes with the suggestions pop up, icon explanation, and the map's search bar.

Test 3: Our third usability test was at Suzzallo Cafe with a male participant. After a couple of failed attempts of finding someone willing to participate in our usability test, we approached this participant because he was not busy, was sitting alone, and was willing to participate. Alexis was the observer taking notes, Jonathan was the computer, and Amy was the facilitator. The participant went through the two tasks and provided feedback that led to changes with the messaging icon and the suggestions layout. At the end of the test, the participant told us that he had just finished prototyping for an HCDE course, so his responses and actions with our prototype may be influenced by his knowledge of prototyping and user centered design.

Prompts for Tasks

We provided prompts for all of our testers to complete the two main tasks. After the first usability test, we realized our prompts may be slightly confusing, so we decided to revise them to make it clearer what their goals are. The first task prompt was revised to make it clear that they only need to start a conversation, but they do not need to wait for a response because we had seen a participant did not know they were done with the task because they were waiting for a response. The second task prompt was revised to remove the details about aperture and shutter speed because we felt it was unnecessary after seeing a participant try to filter for those specific skills. The original and revised prompts can be found in the Appendix.

TESTING RESULTS

Testing Prototypes

Version 1

During our heuristic evaluation, the evaluator pointed out four potential issues in our design. The first issue was that the filters do not have the ability to clear. We fixed this issue by adding a "clear all" option in the filters. Another issue was that the "add friend" button automatically send the friend request without giving the users the option to cancel in case the request was sent by mistake. We corrected this by changing the display to show a "cancel request" option to replace the "add friend" icon after a user has done so. In addition, the triple vertical dots icon, which allows the user to report someone was not understood by the tester. As a group, we did not think that was an issue because it is a convention in other applications, such as facebook, that the vertical dots can lead to a report and block option. Although we left the icon, we decided to add "block" as an option in addition to "report" because we found other applications did this. And finally, the last issue was that the pop-up screen on the map should allow the user to close it by touching off screen. This issue was fixed by simply having the computer remove the pop-up if a user tapped outside of it instead of the 'X.'

Version 2
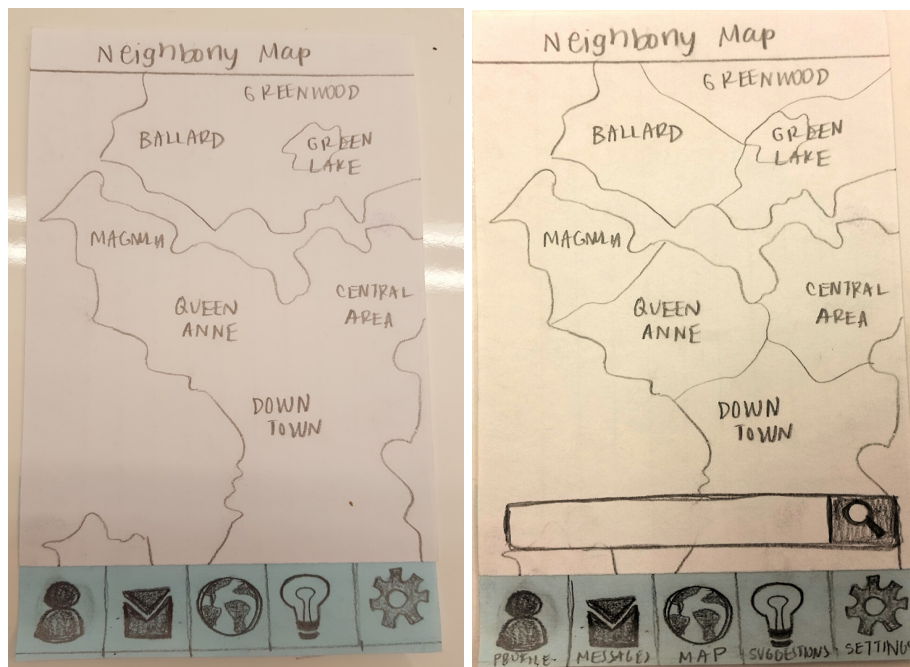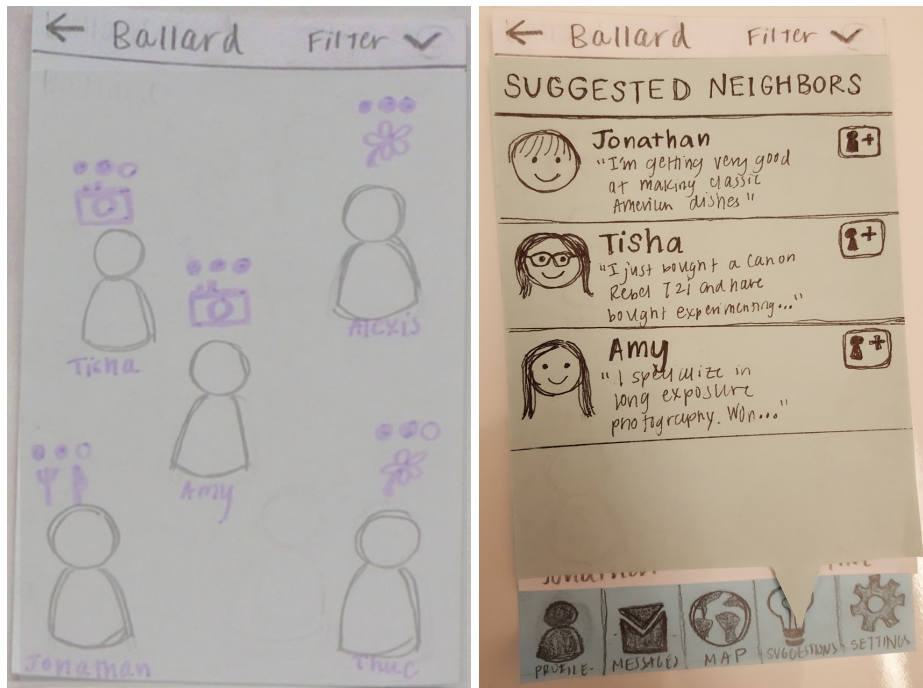

Figures 1, 2

Map and icon label changes

Our first usability test led to changes with our map, icons, wording of interests, and suggestions. Moreover, participant 1 (P1) had trouble figuring out how to use the map when selecting "Ballard" for the neighborhood. He stated he'd rather have a search box instead, or to have both. We drew boundary lines on our map to make the neighborhoods more distinct (Figures 1, 2). We also added the search box as an alternative, and possibly faster, way for users to find a neighborhood. Also, P1 didn't understand all of the icons in the navigation bar. He thought it would be better to also include descriptions - not just the icon. We added labels to the icons to make it clear what their function is.
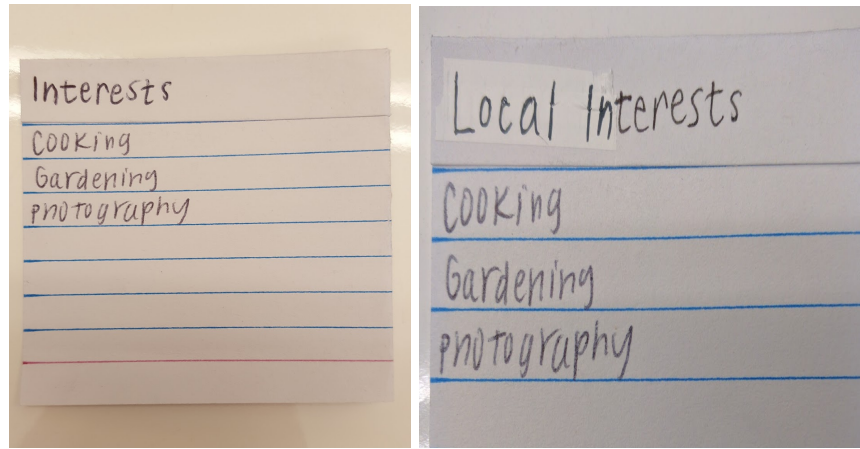
Figures 3, 4

Revision on wording of interests
In addition, P1 wanted more options for interests when filtering. He did not realize that we only show the interests within the neighborhood selected, so this should be clearer. We decided to call it "local interests" to make it clear that the listed interests are only the ones people in the neighborhood have (Figures 3, 4).
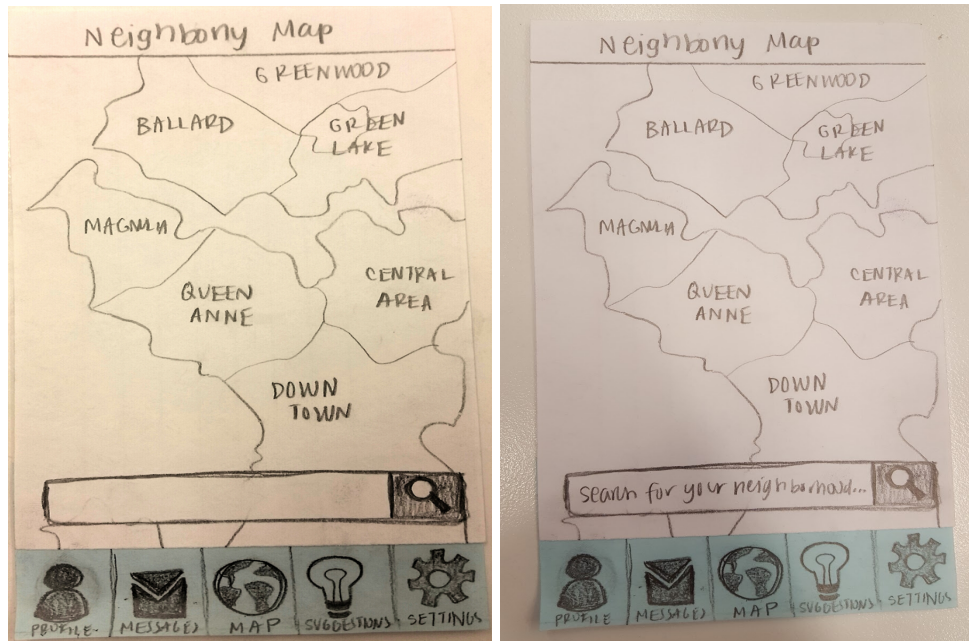

Figures 5, 6

Suggestions implementation
P1 asked about how ratings of usefulness of people's answers would work. He also wondered how he would choose between people if there were many results. We decided to provide suggestions to users when they open the application. They can also click the "suggestions" icon at the bottom. This gives information about some of the neighbors and what their "cool skills" are. This motivates users to choose particular neighbors and distinguishes neighbors among one another, which addresses the issue of how to determine which neighbors to choose.
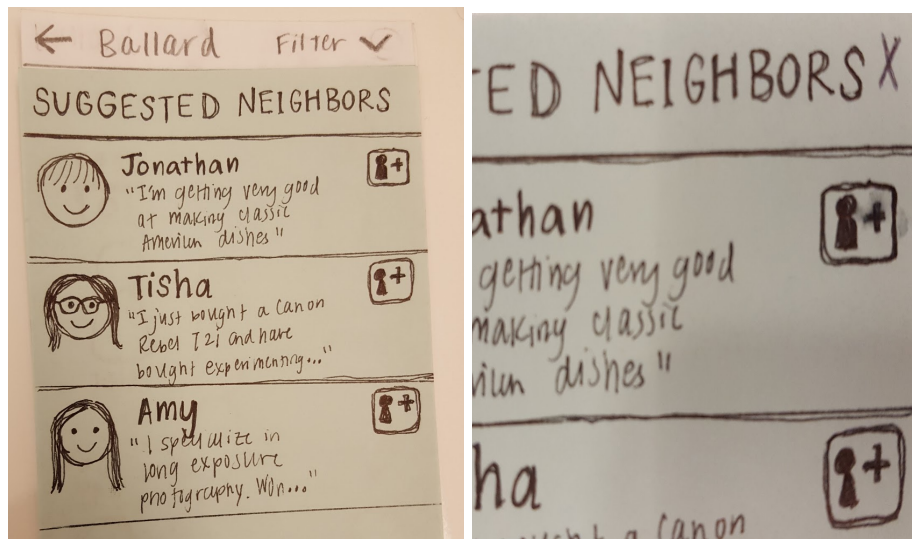
Version 3

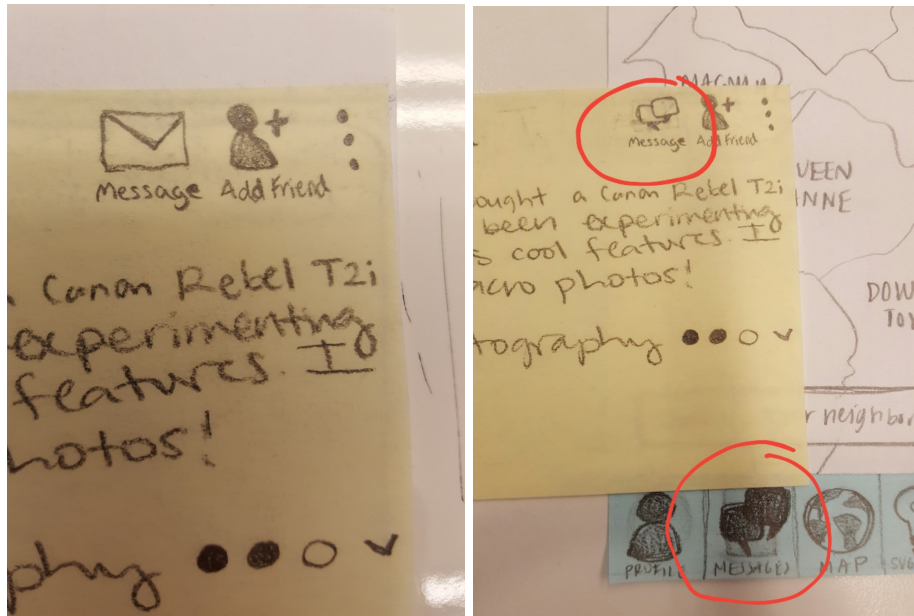Figures 7, 8

Labeling search bar function
P2 did not know what the search bar on the map was for. We added text in the search box: "search for your neighborhood." This clarifies what you can search for.

Figures 9, 10

Closing the Suggestions screen
P2 was unclear on how to get out of the Suggested Neighbors screen. We added an 'X' to the top right corner of this screen as a way to close it.

Figures 11, 12

Messaging icon change
P3 expected the Message button to send a single message rather than start instant messaging. We changed the envelope icon to chat bubble icons to make it clear it can be used for a conversation, rather than a single message.
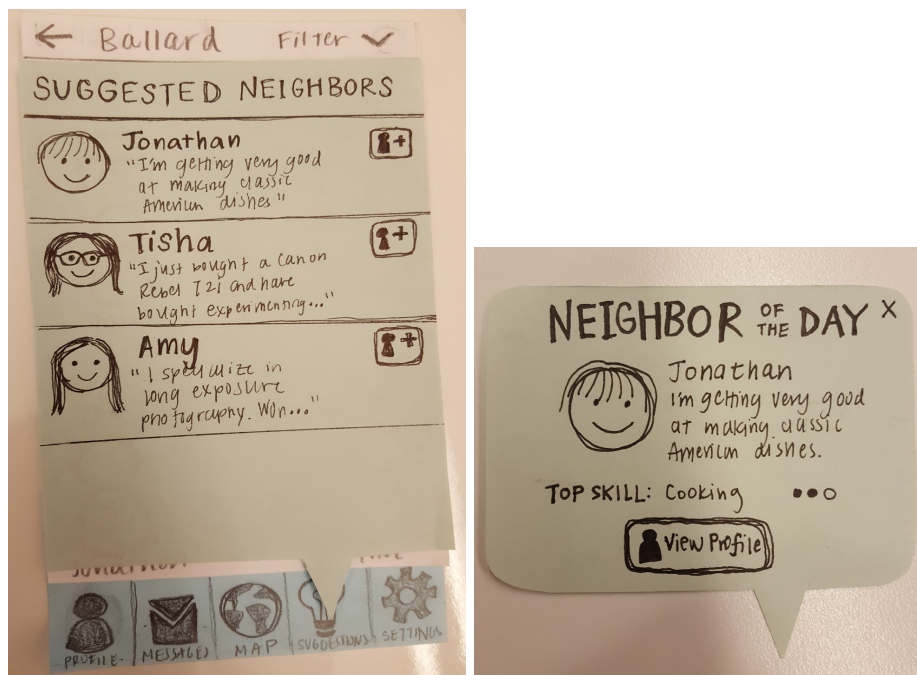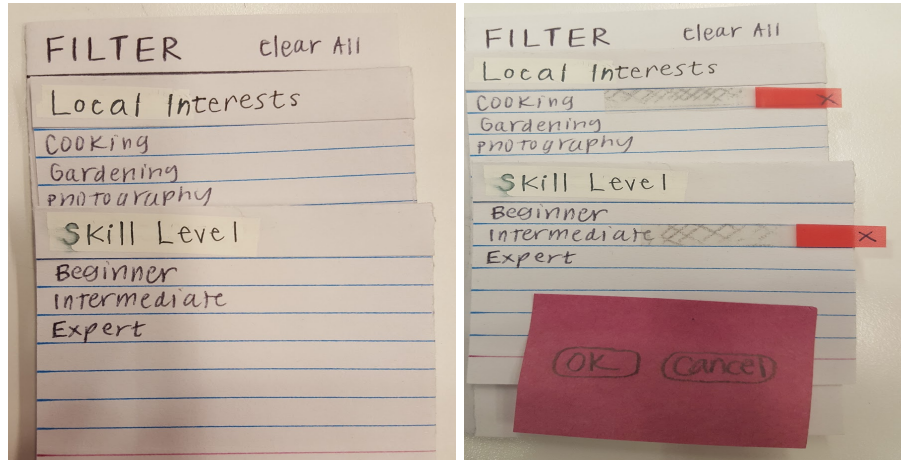

Figures 13, 14

Revising the Suggestions screen and content
P2 and P3 both relied on the suggestions screen to complete tasks rather than using the community room and filters. We decided take emphasis away from the suggestions screen by only showing a single neighbor at a time. This provides a hint of someone to check out if the user is lost while making it obvious they aren't looking at a complete list of relevant users.
Additionally, P2 wanted to see user skills from suggestions screen rather than user bios. We agreed that it

would be useful to see suggested users' top skills on the suggestions screen, but we also still see the value in including the bios. We decided to show both.

Figures 15, 16

Adding buttons to filter screen
P1 did not know how to apply the filters he selected. He suggested adding "apply" and later, during the testing critique session, "ok/cancel" was offered as another option. We added "ok" and "cancel" buttons that show up after a filter option is chosen. This makes it clear that the users' selected filters will be applied and they also have the option to cancel them if needed.
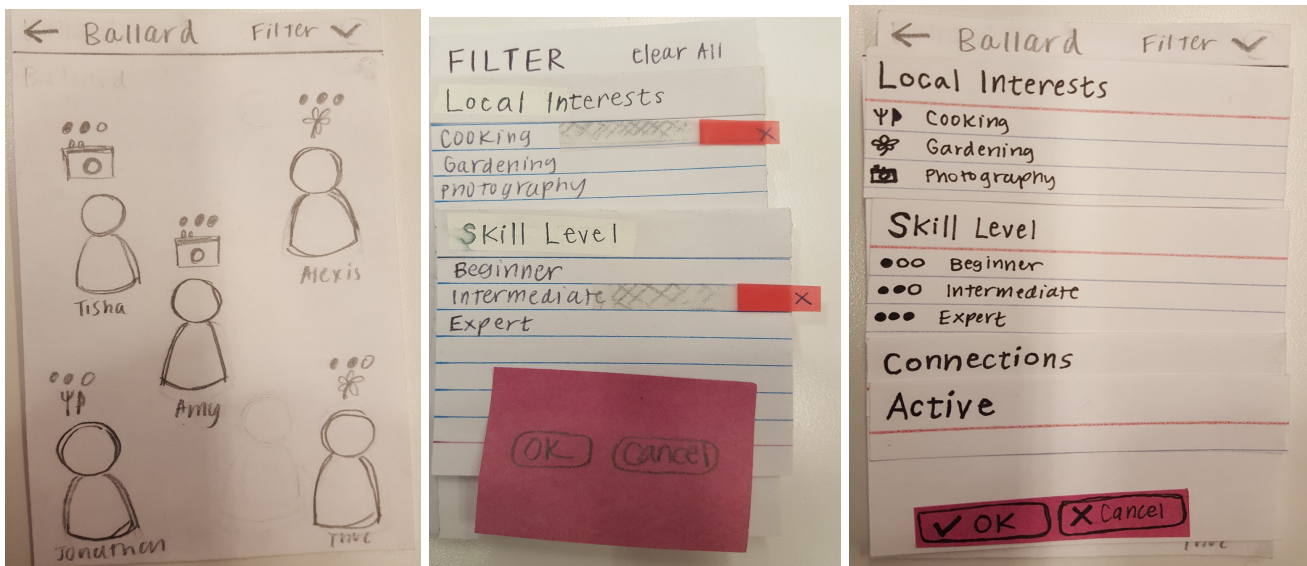
Figures 17, 18, 19

Adding icons to corresponding filter choices
P2 was confused about the meaning behind the icons and dots above users' heads. We decided to add the interest icons and skill level dots to the filter screens. This explicitly associates an icon with the specific topic of interest and associates the dots to the specific skill level. We also created a guided tour, which can be seen in the revision below.
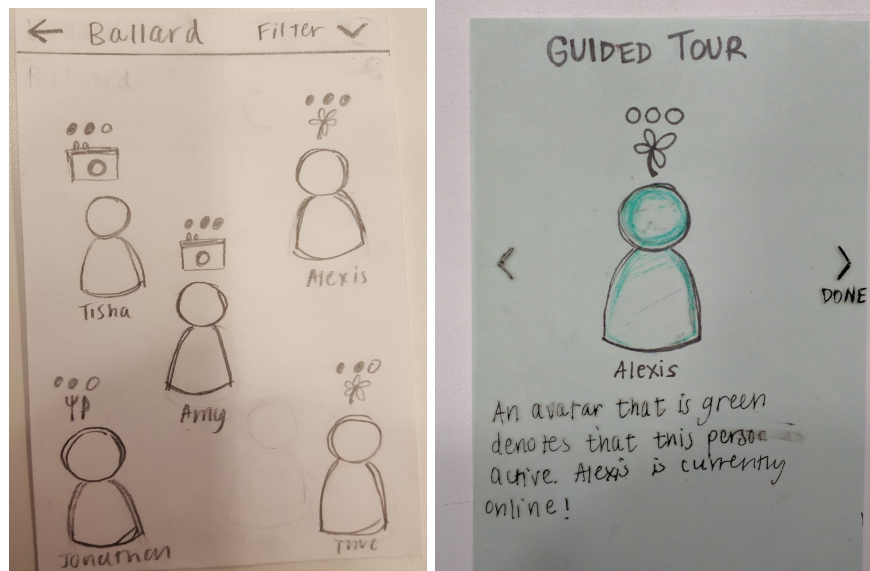
Figures 20, 21

Guided tour implementation
It's unclear which uses are currently active and available. It makes it tough to find help when quick assistance is necessary. We made a guided tour that would show up when a user uses the app for the first time. This informs the user about what the different icons mean. The image above is the part of the tour that explains what active users look like. The full guided tour can be seen in the appendix.

Design Critique


Figure 22. In-class design critique activity sheet

During our design critique section, the evaluator pointed out the lack of clarity of the skill proficiency icons and the specific skill icons as well. As a group, we also agreed the themes that emerged from majority of our testing and critique was about the icons causing confusion among users. As indicated above in the testing of prototype version 3, we implemented the guided tour feature for the design. We strongly believed the guided tour feature will clear up the confusion about our icons. Also, we believed the guided tour feature will allow the user to obtain a good understanding of the app navigation flow and improve usability among our users.

FINAL PAPER PROTOTYPE

Critical Aspects

Our paper prototype depicts a smartphone app that aids in finding and contacting people by offering multiple ways to browse such as the Neighbor of the Day feature, exploring the neighborhood room, and applying filters to the view.

Overview
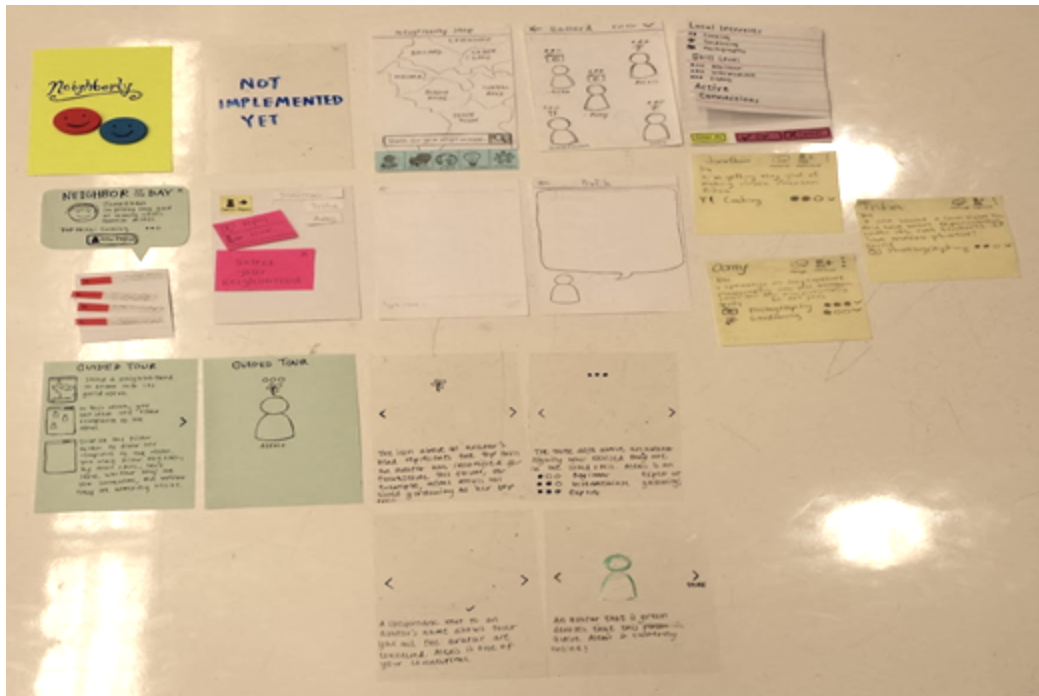
Overview of final paper prototype

Primary Tasks

Task 1: Getting to know neighbors through their hobbies and interests

You have just moved to Ballard. You have completed making your avatar on Neighborly and adding the following interests and skills to your profile: cooking and photography. You don't know anyone in this area yet and want to introduce yourself to a neighbor with a mutual interest.
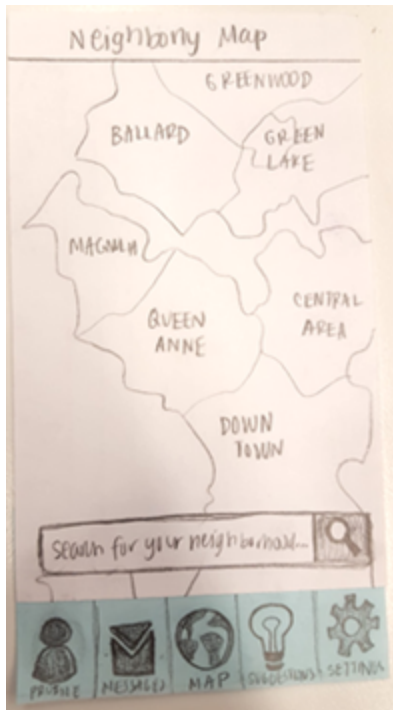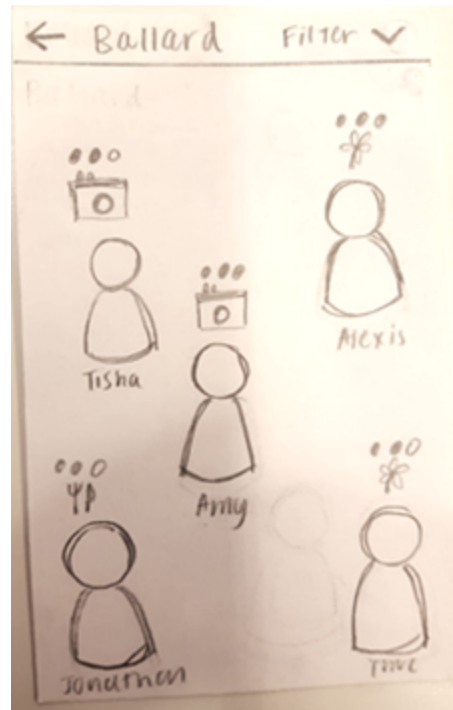
Figure 1.1

Figure 1.2

Figure 1.3

Figure 1.1: The task begins on this screen where the user selects their desired neighborhood. The user may either select from the map itself or use the search bar.

Figure 1.2, 1.3: Once a neighborhood is selected, the user is shown a room dedicated to that area. The user initially sees all the neighbors registered in that area, their primary interests, and their proficiencies in those interests. From here, they may either select a user directly or select a filter to focus the search. Also, the "Neighbor of the Day" message will pop up when the user logs on for the first time that day. The user can then choose to view the profile of this neighbor or cancel out and use other features.
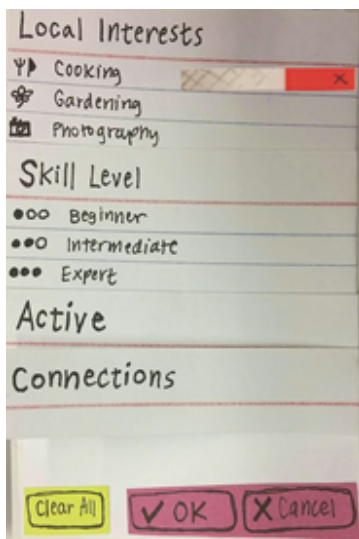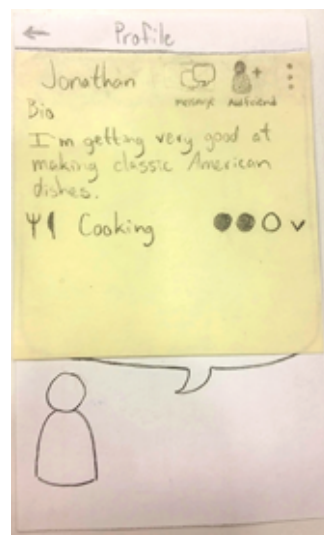

Figure 1.4

Figure 1.5

Figure 1.6

Figure 1.7

Figure 1.4, 1.5: Using the Filter button, the user can select different categories of filters, with the categories' lists expanding and collapsing. The user has the capability to select several options. They can even filter for

neighbors currently online and friends only. Hitting OK will apply the filter(s) and cancel will return the user to the previous screen without applying any filter changes. User may also use the Clear All button to go back to the default view.

Figure 1.6: Once a user selects a neighbor, their profile appears. This includes a short bio provided by the user to give a better idea of their interests, a list of their interests along with corresponding proficiency levels and histories, and interaction options. The user will be able to send them a message, add them as a connection, or report the neighbor through the drop down menu.

Figure 1.7: The task is completed once the user selects the messaging option and sends a message. We provide a post it for the tester to write their message on, then post it as a message.

Task 2: Seeking local enthusiasts for questions and collaboration

You've been working on your photography skills for the past two weeks. Lately, your photos have been very blurry and bright. You want to find someone nearby who is qualified enough to answer your questions about why your photos have been problematic.
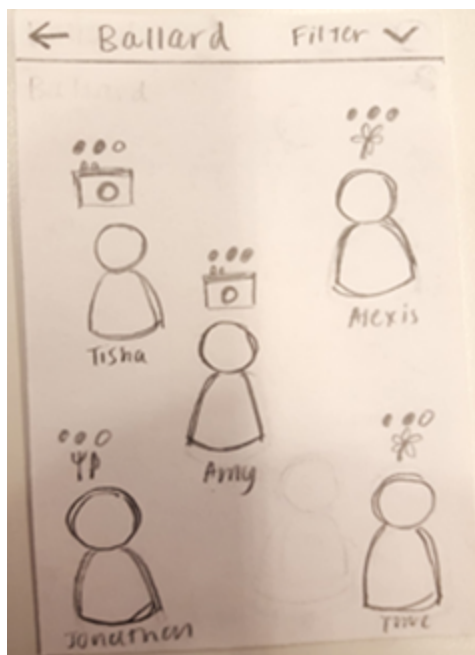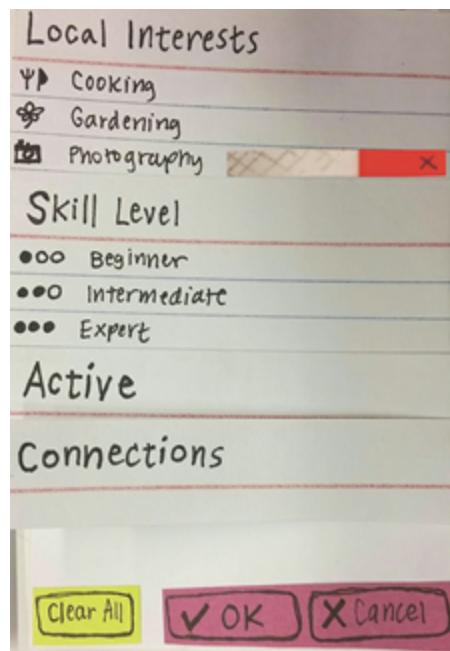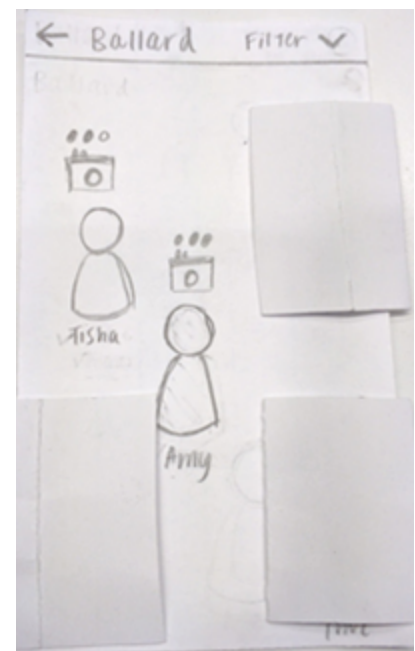

| Figure 2.1 | Figure 2.2 | Figure 2.3 |

Figure 2.1: This is the default screen after users choose a neighborhood. In this task, it is not important for them to select the neighborhood so they start here instead. They can see the neighbors' names, icons of their main skills, and their corresponding proficiency.

Figure 2.2: If they click "filter" the filtering options will be a drop down menu consisting of skill level, local interests, connections, and active users. For our prototype, the user would choose to filter by the photography interest filter because for this task that is what they're interested in.

Figure 2.3: Now only the neighbors with photography as a skill will be shown. The user sees that Amy has a higher proficiency and selects her.
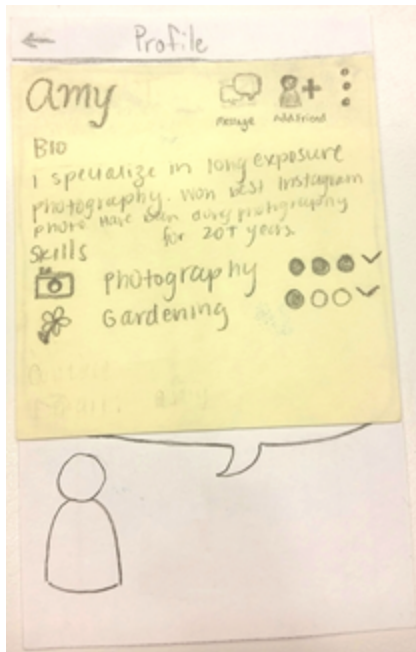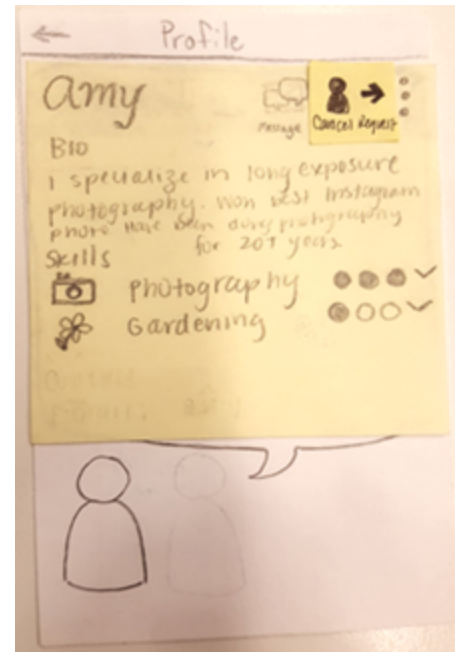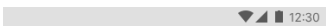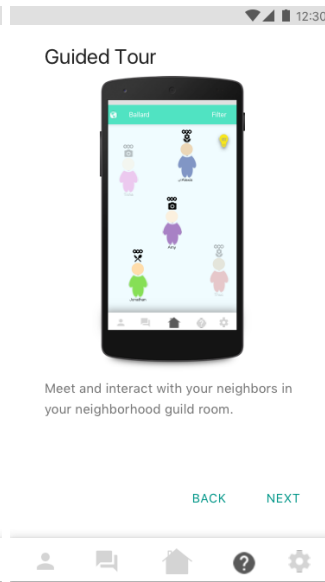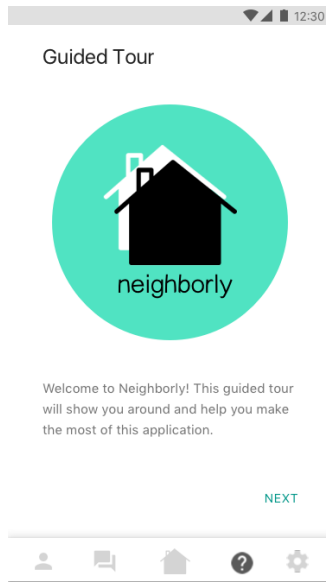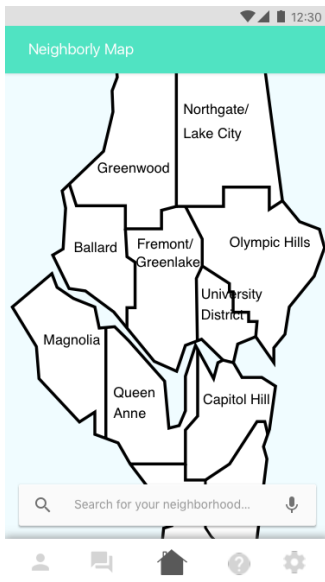
| Figure 2.4 | Figure 2.5 | Figure 2.6 |

Figure 2.4, 2.5, 2.6: The user can see Amy's profile, which includes a short biography and the proficiency for her skills. The user can message her and/or send a friend request.

DIGITAL MOCKUP

Critical Aspects of Design

Our digital mockup has the same aspects as did our paper prototypes. It consists of a friendly user interface and an assortment of features that allow users to meet and interact with their neighbors. When a user first downloads *Neighborly*, they are able to create a personal avatar of themselves and identify their interests. They are then able to select a neighborhood, each of which has its own room, where users can view the avatars of all the neighbors registered in the area. These rooms can be customized by applying filters, so that users only see the neighbors they want to see. Users can learn more about their neighbors by viewing their neighbor's profiles, reading their biographies and seeing their skills, adding them as connections, and messaging them. Users can view their own profiles to see what information they provide, their connections, and their notifications.

Overview

neighborly

Neighborly Map

Northgate/Lake City

Greenwood

Ballard

Fremont/Greenlake

Olympic Hills

University District

Magnolia

Queen Anne

Capitol Hill

Search for your neighborhood...

Guided Tour

neighborly

Welcome to Neighborly! This guided tour will show you around and help you make the most of this application.

NEXT

Guided Tour

Meet and interact with your neighbors in your neighborhood guild room.
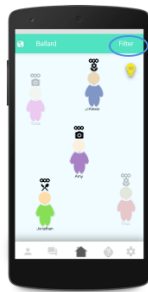
BACK   NEXT

Guided Tour

Customize who you see by adjusting your filters.

BACK   NEXT

Guided Tour

Customize who you see by adjusting your filters.

BACK   NEXT

Guided Tour

The icons surrounding an avatar have specific meanings.
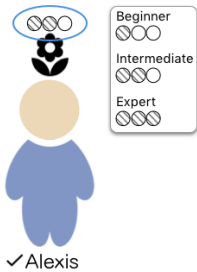
BACK   NEXT

Guided Tour

✓Alexis

The insignia directly above an avatar's head represents the top skill he or she has identified. The flower above Alexis's head shows that her top skill is gardening.

BACK   NEXT

Guided Tour

Beginner

Intermediate

Expert

✓Alexis

These three circles denote how proficient avatars are in their top skills. Alexis has identified herself as an intermediate gardener.

BACK   NEXT

Guided Tour

✓Alexis

If you see an avatar with a checkmark next to their name, this means that this avatar is one of your connections.

BACK   NEXT

Guided Tour

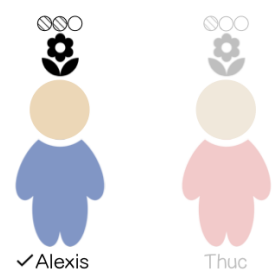✓Alexis   Thuc

Avatars appear in their neighborhood room at all times, even when they are inactive. Neighbors currently online have opaque avatars, while inactive neighbors have more transparent avatars.
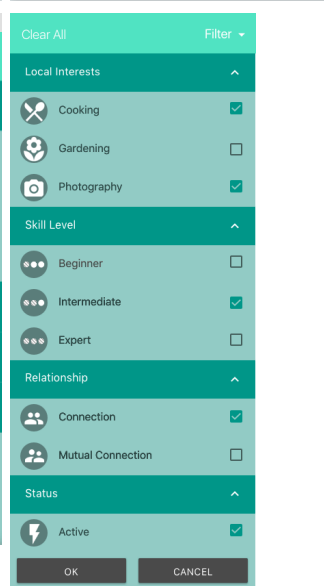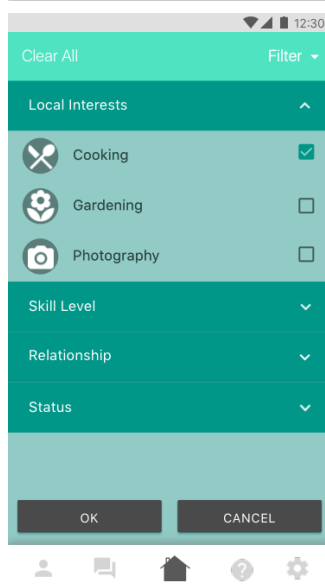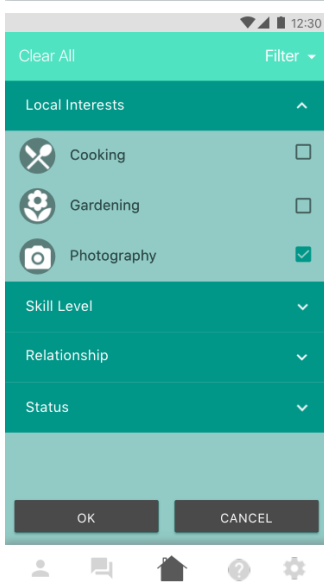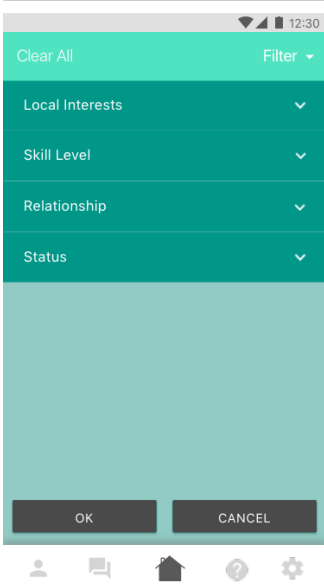
BACK   NEXT

Guided Tour

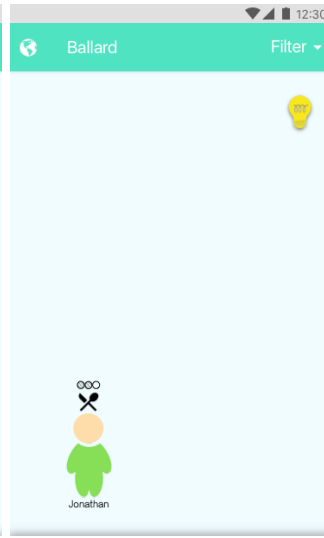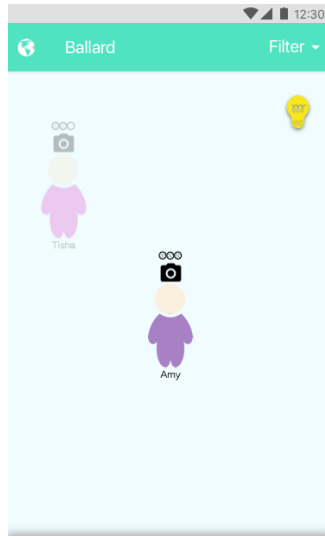✓Alexis   Thuc

Alexis's avatar is solid, meaning she is currently active. Thuc's avatar is more transparent because he is not currently online.

BACK   DONE

Screen 1

Neighbor of the Day ✕

Tisha
"I just bought a Canon Rebel T2i and have been experimenting with its cool features. I love macro photos!"

TOP INTEREST
📷 Photography ◉◉◉▾

VIEW PROFILE

Jonathan   Thuc

Screen 2

🌐 Ballard   Filter ▾

✓Alexis

Tisha

Amy

Jonathan   Thuc

Screen 3

🌐 Ballard   Filter ▾

Tisha

Amy

Screen 4

🌐 Ballard   Filter ▾

Jonathan

Screen 5

Clear All   Filter ▾

Local Interests   ⌄

Skill Level   ⌄

Relationship   ⌄

Status   ⌄

OK   CANCEL

Screen 6

Clear All   Filter ▾

Local Interests   ⌃

🍴 Cooking ☐
🌼 Gardening ☐
📷 Photography ☑

Skill Level   ⌄

Relationship   ⌄

Status   ⌄

OK   CANCEL

Screen 7

Clear All   Filter ▾

Local Interests   ⌃

🍴 Cooking ☑
🌼 Gardening ☐
📷 Photography ☐

Skill Level   ⌄

Relationship   ⌄

Status   ⌄

OK   CANCEL

Screen 8

Clear All   Filter ▾

Local Interests   ⌃

🍴 Cooking ☑
🌼 Gardening ☐
📷 Photography ☑

Skill Level   ⌃

👥 Beginner ☐
👥 Intermediate ☑
👥 Expert ☐

Relationship   ⌃

👥 Connection ☑
👥 Mutual Connection ☐

Status   ⌃

⚡ Active ☑

OK   CANCEL

Screen 1 — My Profile (General Info)

12:30

← My Profile

Katharina R.

GENERAL INFO | CONNECTIONS | ACTIVITY

Biography

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

Interests

🎤 Lecturing ◎◎◎▼

Other Information

Screen 2 — My Profile (Connections)

12:30

← My Profile

Katharina R.

GENERAL INFO | CONNECTIONS | ACTIVITY

★ Catie Baker

Kelsey Munsell

A Aaron Bennett

B Brian O'Malley

Screen 3 — My Profile (Activity)

12:30

← My Profile

Katharina R.

GENERAL INFO | CONNECTIONS | ACTIVITY

You and Catie Baker are now connected. — 12:03 PM

Kelsey Munsell — 11:47 AM
Added a new skill!

Alex Fiannaca — 11:30 AM
Sent you a connection request!

Screen 4 — Profile (Amy T.)

12:30

← Profile

Amy T.

GENERAL INFO | CONNECTIONS | ACTIVITY

Biography

I specialize in long exposure photography. I won Best Instagram Photo. I have been doing photography for 20+ years.

Interests

📷 Photography ◎◎◎▼

🌼 Gardening ◎◎◎▼

Screen 5 — Profile (Jonathan F.)

12:30

← Profile

Jonathan F.

GENERAL INFO | CONNECTIONS | ACTIVITY

Biography

I'm getting very good at making classic American dishes.

Interests

🍳 Cooking ◎◎◎▼

Other Information

Resident of Ballard for 5 years

Screen 6 — Chat (Amy T.)

12:30

← Profile

Amy T.

Amy T.

☺ Write a message... ➤

Screen 7 — Chat (Jonathan F.)

12:30

← Profile

Jonathan F.

Jonathan F.

☺ Write a message... ➤

Primary Tasks

Task 1: Getting to know neighbors through their hobbies and interests
You have just moved to Ballard. You have completed making your avatar on *Neighborly* and added the following interests and skills to your profile: cooking and photography. You don't know anyone in this area yet and want to introduce yourself to a neighbor with a mutual interest.
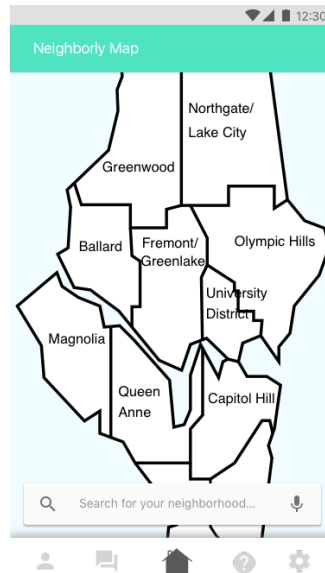

Figure 1.1

Figure 1.1: The task begins on the screen where the user selects their desired neighborhood. The user may either select a region on the map itself, or search for their neighborhood. The user selects Ballard, since this is the neighborhood they have just moved to in this task.
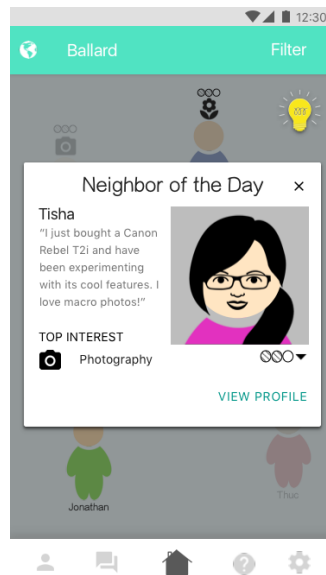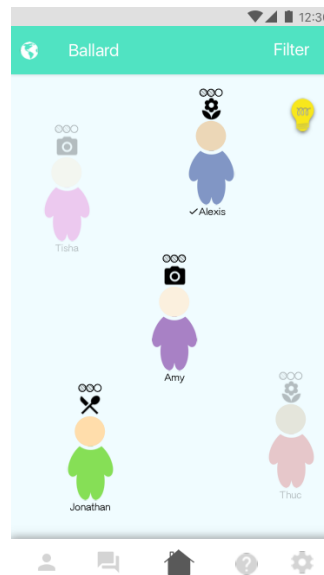

Figure 1.2   Figure 1.3

Figure 1.2: The "Neighbor of the Day" will pop up when the user logs on for the first time that day. The user can view more about this neighbor by clicking "View Profile", or ignore the suggestion by closing the modal. The modal will open up again if the user clicks on the lightbulb icon.

Figure 1.3: Once a neighborhood is selected, the user is placed in a room dedicated to that area. Users initially see all the neighbors registered in that area. Each neighbor is surrounded by icons denoting their primary interests, their proficiencies in those interests, whether they are currently online, and if they are one of the user's connections.
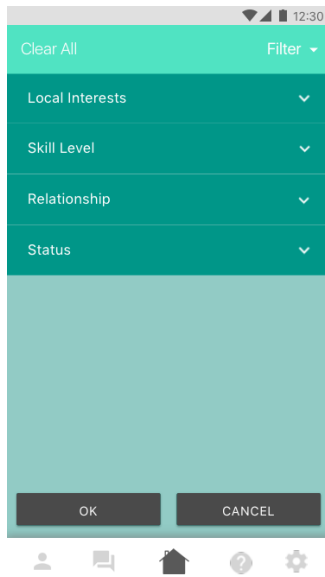

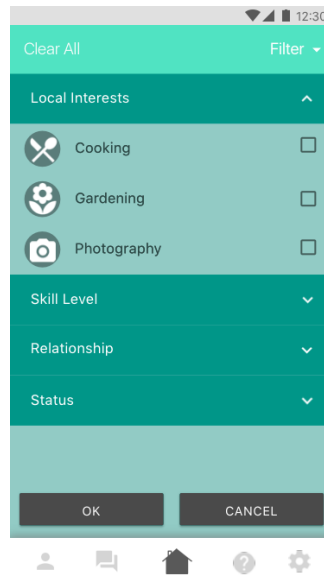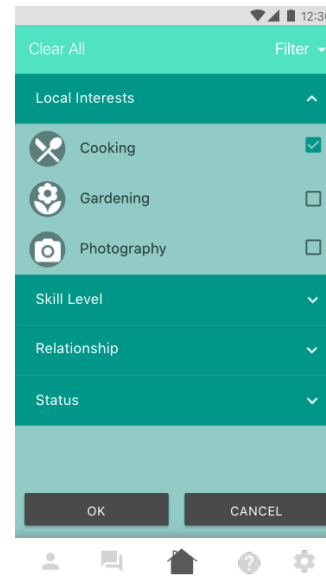Figure 1.4   Figure 1.5   Figure 1.6

Figure 1.4: Users can focus a search and reduce the amount of neighbors shown in the room by applying a filter. A user can filter the room so that only people meeting a certain criteria appear. Criteria is split up into the categories of Local Interests, Skill Level, Relationship, and Status. Each of these categories is their own button within the Filter list, and will expand when clicked on, and display their respective subcategories. Selecting their own personal combinations of these options enables users to customize their room. Hitting "OK" will apply the filter, while "Cancel" will return the user to the previous screen with the filter that was last applied. Users may also click the "Clear All" button to deselect all items and go back to the default view.

Figure 1.5: Clicking on the category, Local Interests, will display all of the interests people have identified as one of their own in the neighborhood room.

Figure 1.6: In our task, the user likes to cook, so they apply a filter to limit the room to neighbors who are also interested in cooking by selecting the subcategory, Cooking.
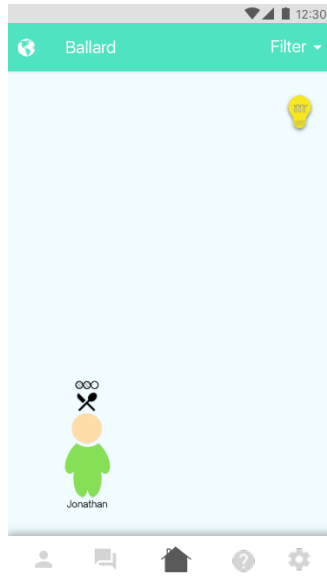
Figure 1.7

Figure 1.7: Applying the filter brings the user back to the neighborhood room, where now only the neighbors who fit the criteria of the filter are displayed. The user selects the one remaining neighbor in the room, Jonathan.
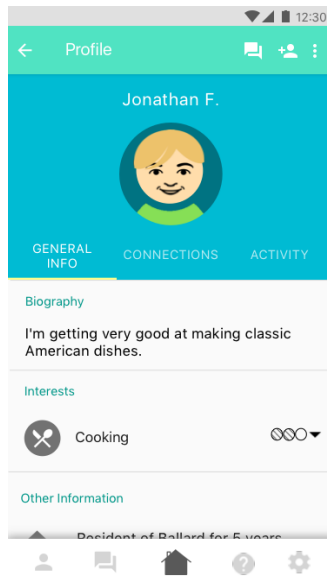

Figure 1.8

Figure 1.8: After clicking on the neighbor's avatar, the user is redirected to the neighbor's profile. This profile consists of a short biography, a list of interests along with corresponding proficiency levels, and optional information such as contact information. The app bar on the top of this screen includes options for interacting with the neighbor. By selecting these buttons, a user can send the neighbor a message, add them as a connection, or report or block them through a hidden extra option.
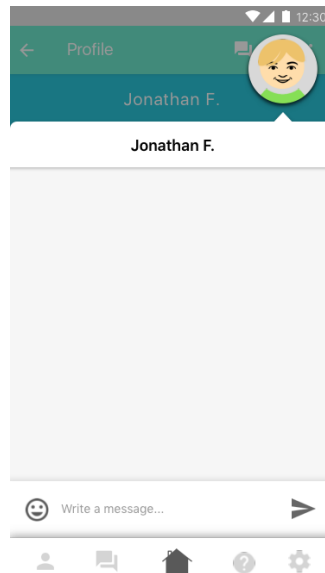
Figure 1.9

Figure 1.9: The task is complete once the user sends a message to the neighbor.

Task 2: Seeking local enthusiasts for questions and collaboration

You have been working on your photography skills for the past two weeks. Lately, your photos have been very blurry and bright. You want to find someone nearby who is qualified enough to answer your questions about why your photos have been problematic.
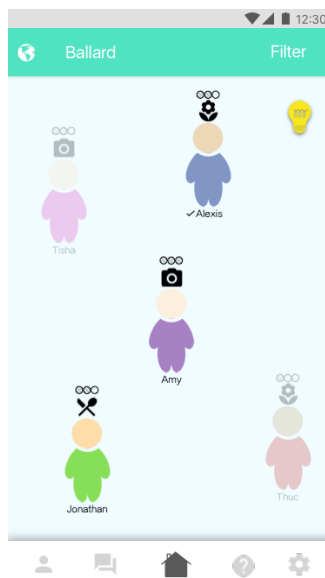

Figure 2.1

Figure 2.1: In this task, users start in the neighborhood room, which is the default screen after choosing a neighborhood during setup. Here, a user can see their neighbor's names, primary interests, and corresponding proficiency levels. They are also able to tell which of their neighbors are currently online, as well as who they are already connected with.
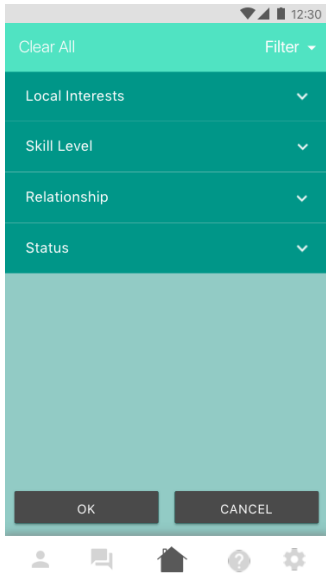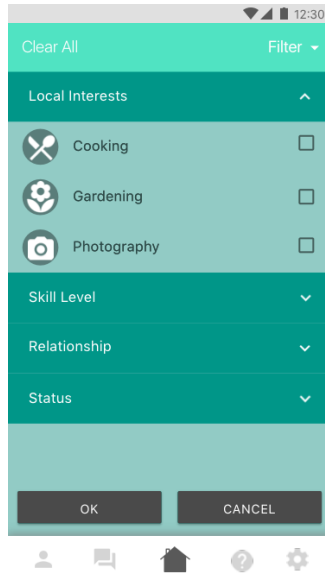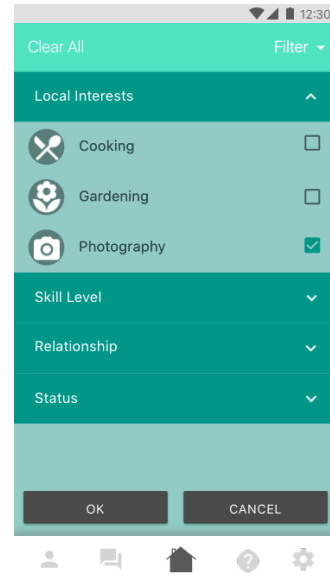
Figure 2.2   Figure 2.3   Figure 2.4

FIgure 2.2: When the user clicks on the "Filter" button, they are redirected to a new screen which lists filtering options. These options consist of the following categories: Local Interests, Skill Level, Relationship, and Status.

Figure 2.3, 2.4: In this task, the user wants to find someone interested in photography, so they select Local Interests, then Photography, then "OK" to apply the filter.
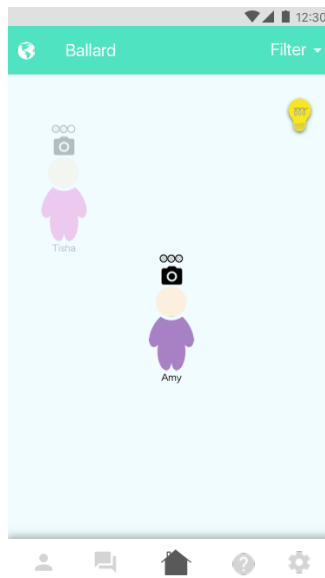
Figure 2.5

Figure 2.5: Now only the neighbors who have listed photography as an interest are shown. The user sees that Amy has a higher proficiency than Tisha, so selects Amy.

Figure 2.6

Figure 2.6: The user now sees the neighbor's profile, which includes a short biography, a list of the neighbor's interests and skill level in each interest, and other information. The user can message or send the neighbor a connection request using the buttons on the app bar at the top of the screen.

Design Changes

Paper to Digital

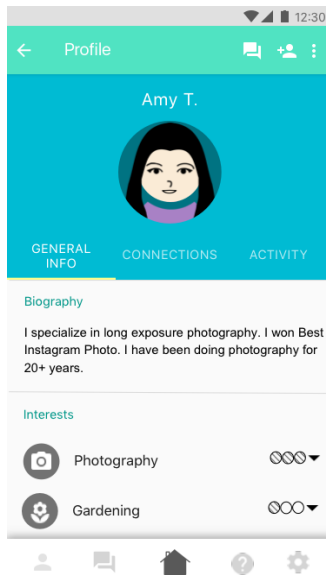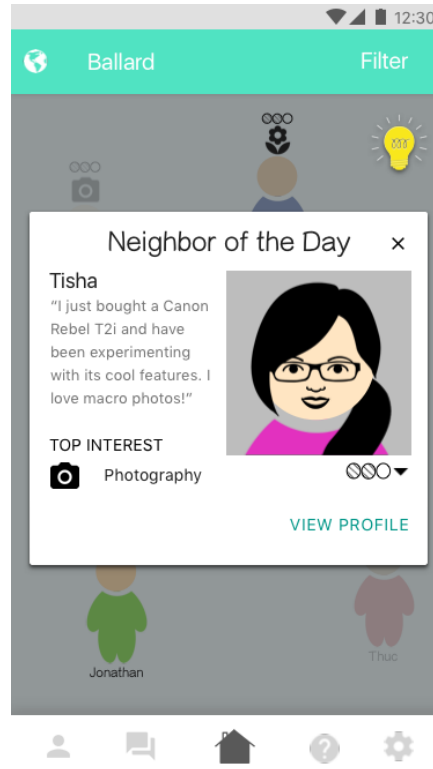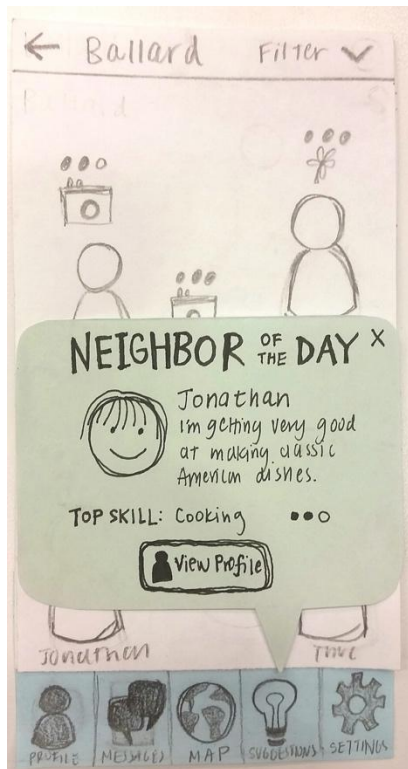In our paper prototype, our menu items had labels because some icons were unclear what their functions were. However, we removed these labels for our digital mockups, which used conventional icons whose meanings are well known, thus eliminating the need for descriptions.

We moved the "Suggestions" button from the bottom navigation bar to the neighborhood room screen. We realized that because our suggestion only changes daily, a user is not likely to click on it very often, thus it seems odd to have it as a major icon in our navigation bar. We decided the neighborhood room was the most sensible place for it, because "Neighbor of the Day" selects someone within that room. In the bottom navigation bar, "Suggestions" was replaced with a "Help" button, which includes resources for using our application, such as the Guided Tour.
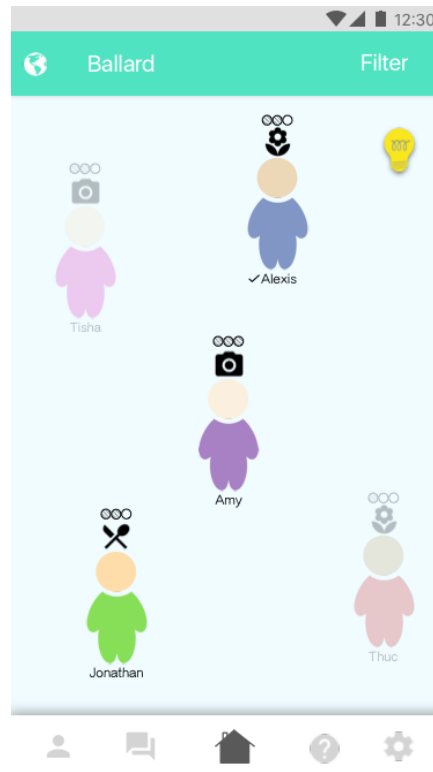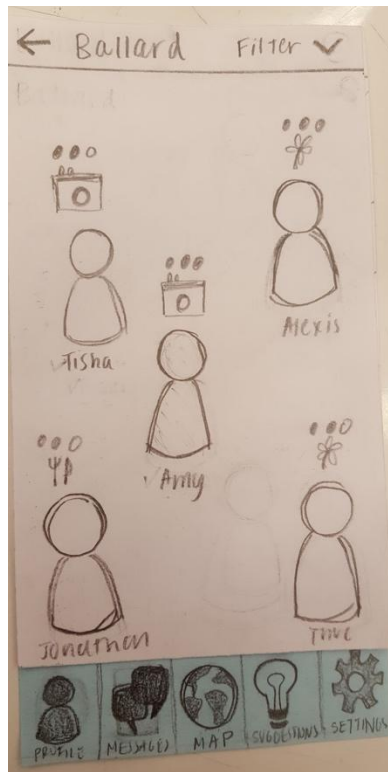
On the app bar of the neighborhood room, we replaced the "Back" button with a globe icon, which would lead back to the map when clicked. We decided that "Back" would not be used very often on this screen, because users are expected to spend the majority of the time within this room for their residing neighborhood. However, it is still needed as an option in case people move to a new neighborhood and need to select a new location, or if they just want to visit other neighborhood rooms.

With the "Map" button in this new location, it could be removed from the bottom navigation bar. It is conventional for the middle button on a navigation bar to be the central button for the most used action in the application. Because we want the neighborhood room to be the main scene in our application, we decided on a button for the neighborhood room the user last resided in, which we represented with the *Neighborly* logo.
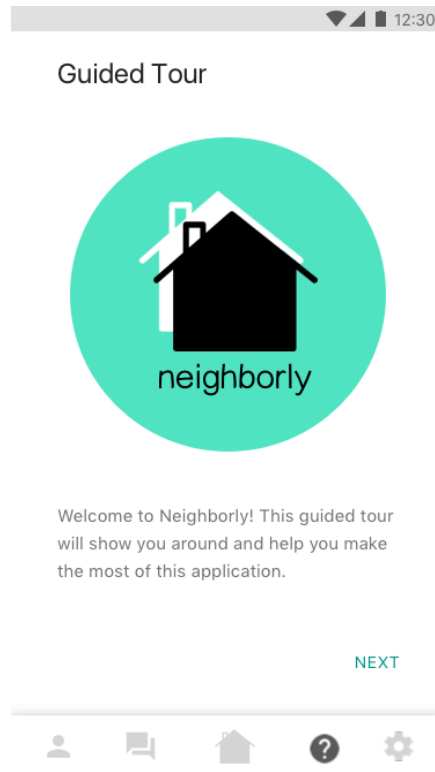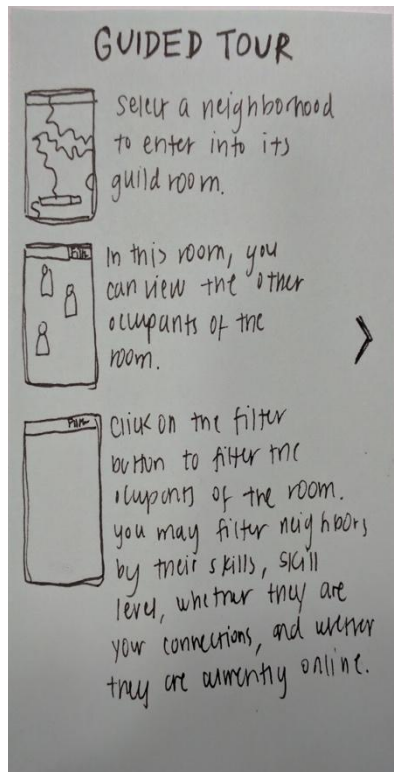
We added a welcome screen to our guided tour because we did not want to overwhelm new users by jumping right into our features. The guided tour only appears on startup when a user first downloads *Neighborly*, however can be viewed again by clicking on the "Help" button. "Help" replaced what was previously our "Suggestions" button.
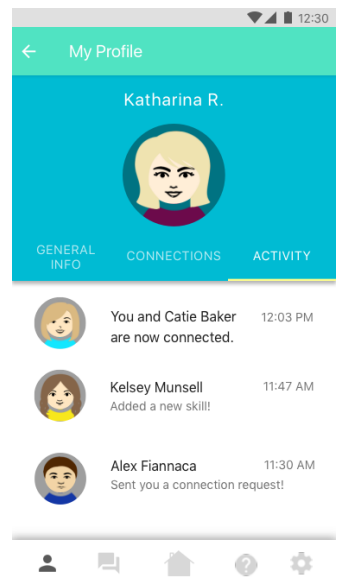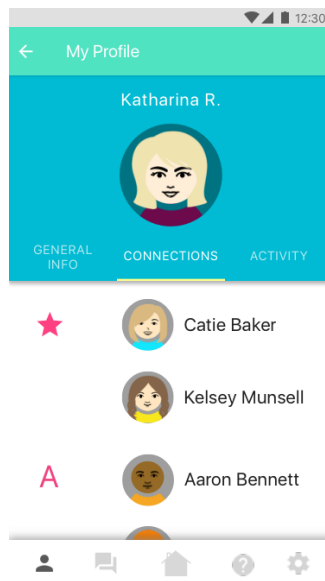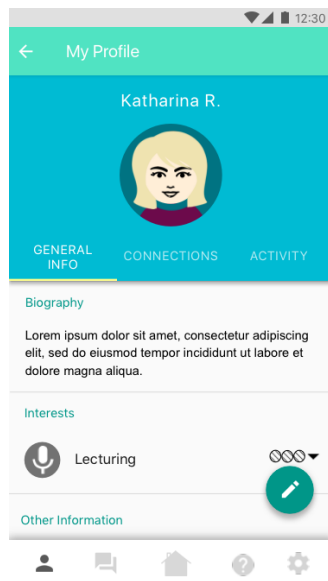
Finally, we implemented a new screen that was not present in our paper prototypes. The user's profile screen is an essential part of our application, and allows a user to view and edit their own information, including adding skills. Moreover, the profile screen is where a user can see their connections and notifications.

In Response to Critique
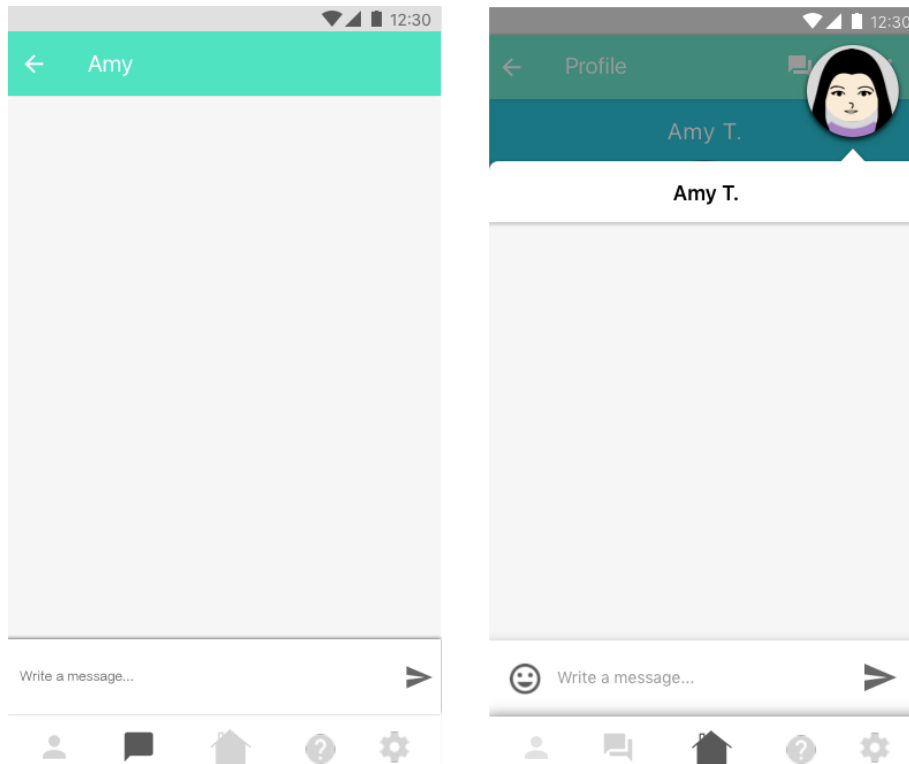
After expressing concern in what menu button should be highlighted when clicking the "Message" icon after viewing a user's profile, we received feedback that made us consider what we wanted the workflow to be like. The highlighted menu button should indicate where the app would lead you to when clicking the back button. While being on the "Message" icon might suggest that clicking "Back" would redirect you to all of your messages, we would want "Back" to lead you back to the neighbor's profile page you were just looking at. On that page, the "Home" button was highlighted, so it should be the same for sending a neighbor a message. However, it still seems odd to send a message from a home screen. We received a suggestion to create a popup rather than a new page, so that you are technically still on the same screen as when you clicked the "Message" button. We decided to go with this idea as it solves both problems.
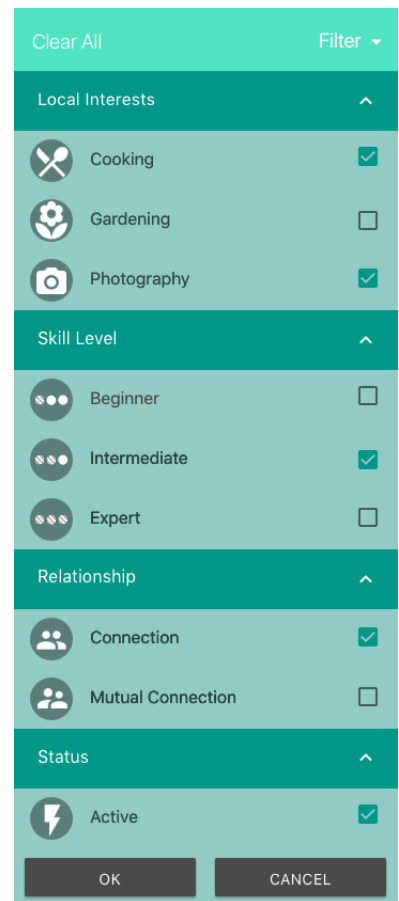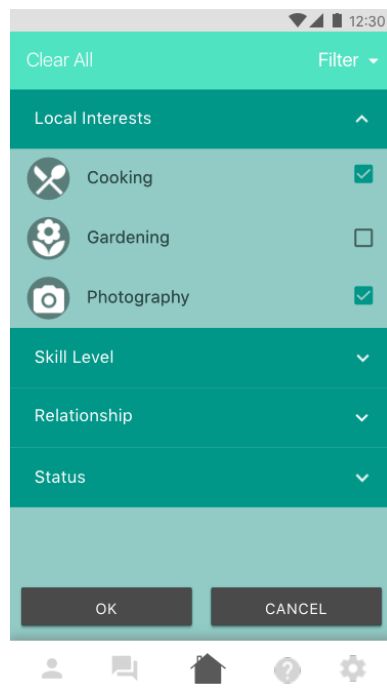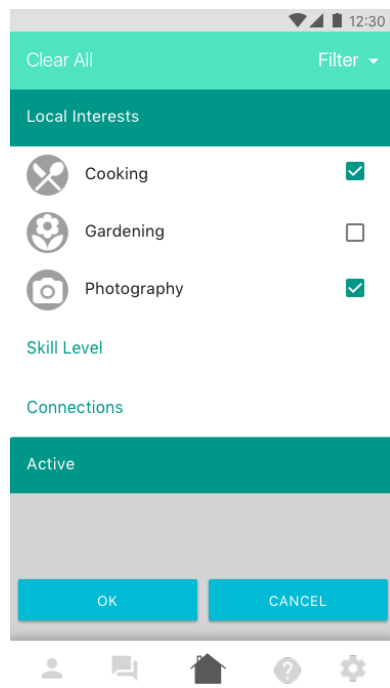
We realized during our critique that our filter system was unclear. People did not know that the items with the teal background color were supposed to denote selection either for subcategories within a category, or the category itself. We previously made the filters this way because "Connections" and "Active" were both the only option within their group, and did not want a category to expand to show only one option. However, it was pointed out that in the future, our application may expand to have more subcategories within a group. Moreover, it is important to show consistency. Therefore, we made all categories include subcategories, and made it so only subcategories could be selected. We also added a "Mutual Connection" option to go with "Connection" for the "Relationship" category, which we had previously discussed but were yet to put in our prototype. Furthermore, we added arrows to indicate when a category could be expanded or collapsed.
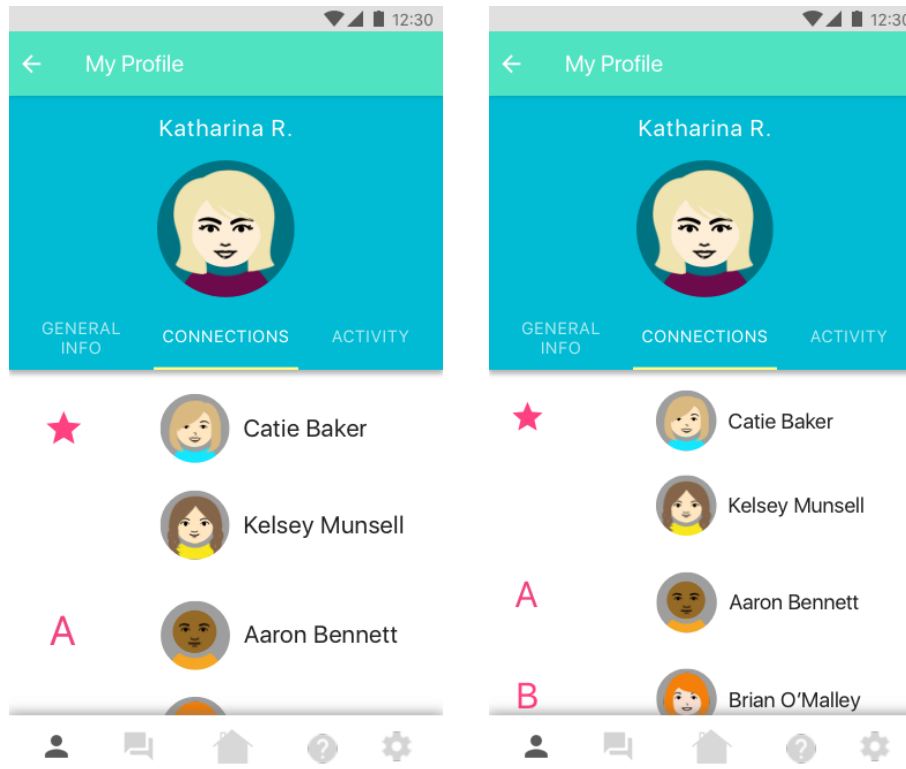
People seemed confused what the star and letter 'A' icons meant in the Connections tab on the profile page. However, this design was taken straight from an Android template, and is the convention for displaying contacts. We thought the issue could be solved by adding another connection as an example, adding a 'B' name to the list to clearly show that the left column is labeling names in alphabetical order.

DISCUSSION

We have found that the last few weeks have really proved the necessity of the iterative design process. When designing a product for so long, there is always the risk that you may become attached to certain aspects of your design. You might absentmindedly accept an old decision as permanent without actually reconsidering choices at each step. Our testing showed that you cannot be afraid to change your design when there is good reason to do so. Disruptive issues previously hidden may arise that require rethinking large portions of a product. The ultimate problem often came down to bad assumptions we never would have caught testing on our own. Working with a wide variety of individuals in the testing process gave the diverse feedback we sought for our consideration. Constantly going back and reevaluating based on this feedback has certainly led to better solutions.

As we went through the process, major issues arose within our initial design. Parts we thought were clear ended up being the opposite to users interacting with our prototype. By highlighting these gaps and misconceptions, testing was established as a crucial part of our design process. As we tested our prototype on both designers and random strangers, we realized some of the differences in feedback style and content between the two groups. We also noticed the advice we were given seemed affected by the expectations and previous experiences the users entered the test with. With all of the aid we received from our helpful testers, our design has become much stronger.

After our heuristic evaluation and first usability test, we decided to revise the prompts for the two tasks we had been testing. The tasks were a foundation for the next two usability tests we conducted, so we wanted to improve them before using them with our next participants. Having clear prompts makes it easier for a participant to know what their goal is and when they are done. During our first usability test, the participant did not understand when he was done with the task because it was unclear if starting a conversation through

Neighborly was the task or if he needed to wait for a response to have a conversation. In addition, the details included in our second prompt were unnecessary to the actual task we were testing for, so we removed the information about "shutter speed" and "aperture." Through these changes, we realized that prompts for tasks should be concise and clear, which can help both the tester and the facilitators of a usability test.

It would have been helpful to have gone through even more iterations of our design. With each design we made, we found issues through testing, and iteratively changing our design and conducting new tests made our design better and better. Though we are confident with our final design, some of the features are still untested. It may never have happened, but it would have been nice to have a final design that testers found no problems with. Also, though we did three usability tests, we only did one heuristic evaluation, so we wish we could have done more heuristic evaluations to get feedback from "experts". Furthermore, when we first started designing, we did not do so with people with disabilities in mind. It is unfortunate that we did not consider this user group sooner, as it is more difficult to make major changes at this stage, and we want our application to be accessible by everyone. While we think aspects of our design would work quite well for groups with disabilities such as the visually impaired, it would have been nice to actually perform tests with these people. On that note, the tests we conducted were all done with college students, and it would have been better to perform testing with a larger demographic.

Appendix

Prompts Used in Testing: Original and Revised Versions

Original Task 1: You have just moved to Ballard. You have completed making your avatar on Neighborly and adding the following interests and skills to your profile: cooking and photography. You don't know anyone in this area yet and want to strike up a conversation with a new neighbor about a mutual interest.

Revised Task 1: You have just moved to Ballard. You have completed making your avatar on Neighborly and adding the following interests and skills to your profile: cooking and photography. You don't know anyone in this area yet and want to introduce yourself to a neighbor with a mutual interest.

Original Task 2: You've been working on your photography skills for the past two weeks. Lately, your photos have been very blurry and bright. You're still learning about shutter speed versus aperture settings, but haven't quite gotten the hang of it. You want to find someone nearby who is qualified enough to answer your questions about why your photos have been problematic.

Revised Task 2: You've been working on your photography skills for the past two weeks. Lately, your photos have been very blurry and bright. You want to find someone nearby who is qualified enough to answer your questions about why your photos have been problematic.

Critical Incidents

Problems understanding how to use filters
The heuristic evaluator, found that the filters should have a clear all option, so we added a button for this. P1 from our usability test did not know that the interests listed under "interests" were only for the selected neighborhood, so we decided to change the wording to "local interests." P1 also explained how he did not know how to "apply" the filters he selected, so we added "ok" and "cancel" buttons.

Adding as a friend on accident
The heuristic evaluator mentioned that she would be concerned about users accidentally hitting our "add friend" icon believing it was a different action. We decided to change the icon to a "cancel request" icon so users can undo the mistake.

Using the map
During the usability test, P1 was confused about how to use our map. It was not clear that the map could be tapped on to choose neighborhoods. We decided to add a search box, which allows users to directly search for a neighborhood quickly. We also drew boundaries around neighborhoods to make it clear they are separate areas that can be clicked. In our second test, P2 told us that the search box's function was unclear, so we added text to the search box indicating the user can search for their neighborhood.

Understanding icons and symbols
Many participants expressed their confusion over our icons and symbols. First, there was confusion about what our navigation bar's icons meant, so we added labels to those. They also mentioned not understanding our symbols for proficiency (dots). There were also a couple participants who were not certain if they understood what the icons we used for interests represented (e.g., the flower means gardening). We added icons to the filters after our third usability test. We thought this would make it clearer what the icons meant if they were placed next to text corresponding with their meaning. We did not want these icon explanations to only be in the filters, so we also implemented a guided tour. This addresses the confusion about our various icons and symbols by explaining them during a user's first use of the application.
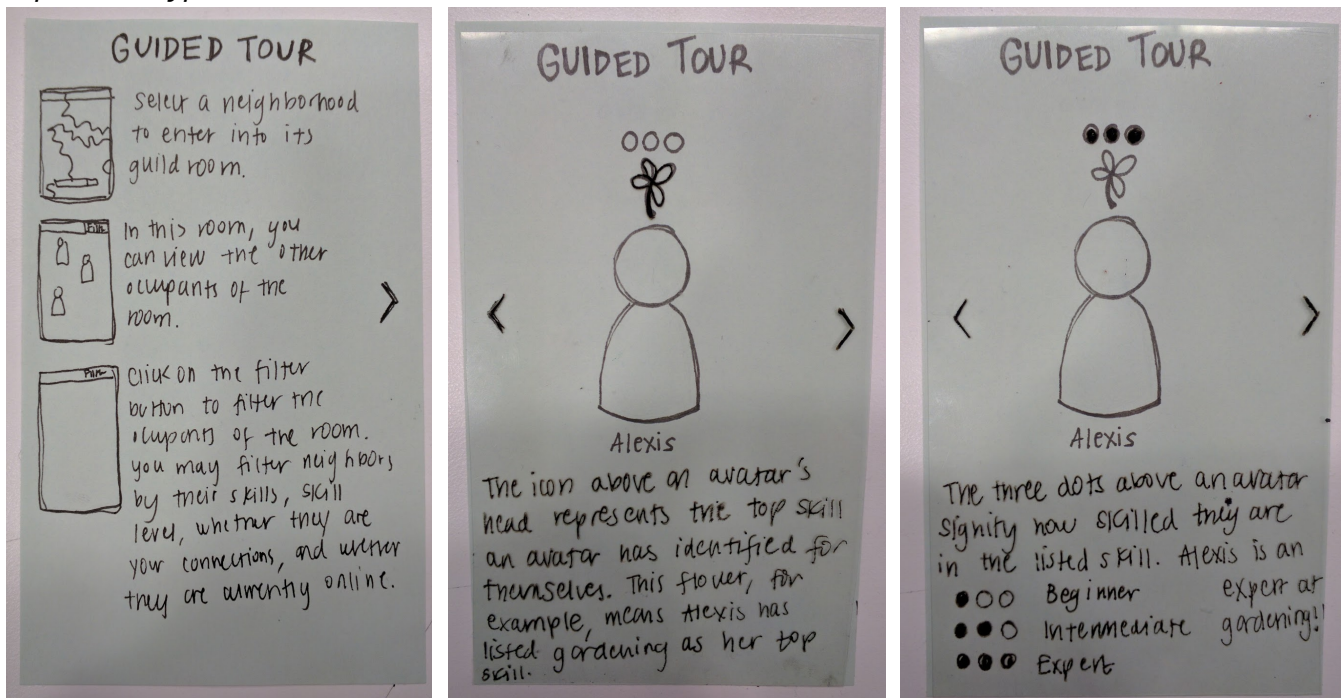
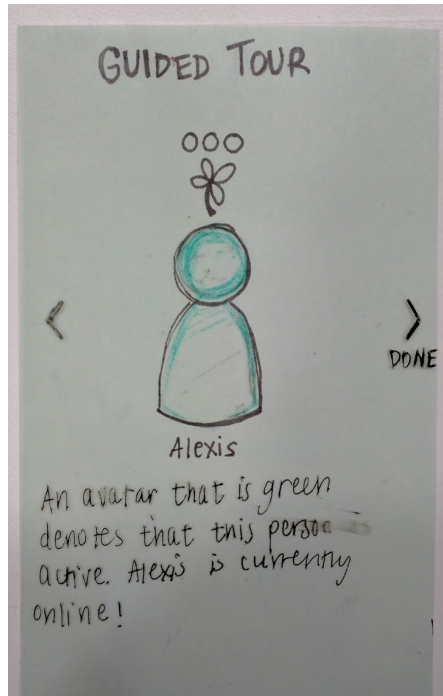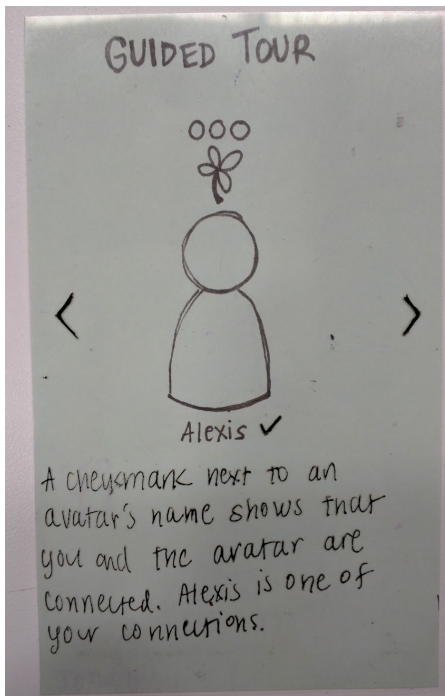*How to decide which neighbor to choose: Suggestions and Connections*
During our first usability test, the tester mentioned that if the neighborhood room were to be very full, it would be difficult to decide which neighbor they should select without a feedback system. We discussed as a group that we did not want people to be able to provide feedback, because this can lead to negative implications if the feedback gets nasty. Instead, we decided to provide a mechanism that would be supplied by the application itself, which suggests neighbors for a user to look at. Suggestions are catered to the users based on their profile and interests.

Furthermore, the neighbors users select might be influenced by whether they are already connected with them, or if they are currently online. Though we had discussed being able to filter neighbors by more criteria, at this point in the testing stage, our filters were limited to just Interests and Skill Level. Therefore we decided to add more filters to further narrow down the neighbors appearing in the neighborhood room. We added a Relationship category where you could specify neighbors who are your connections or who you have mutual connections with, and a Status category where you could find what neighbors are currently online.
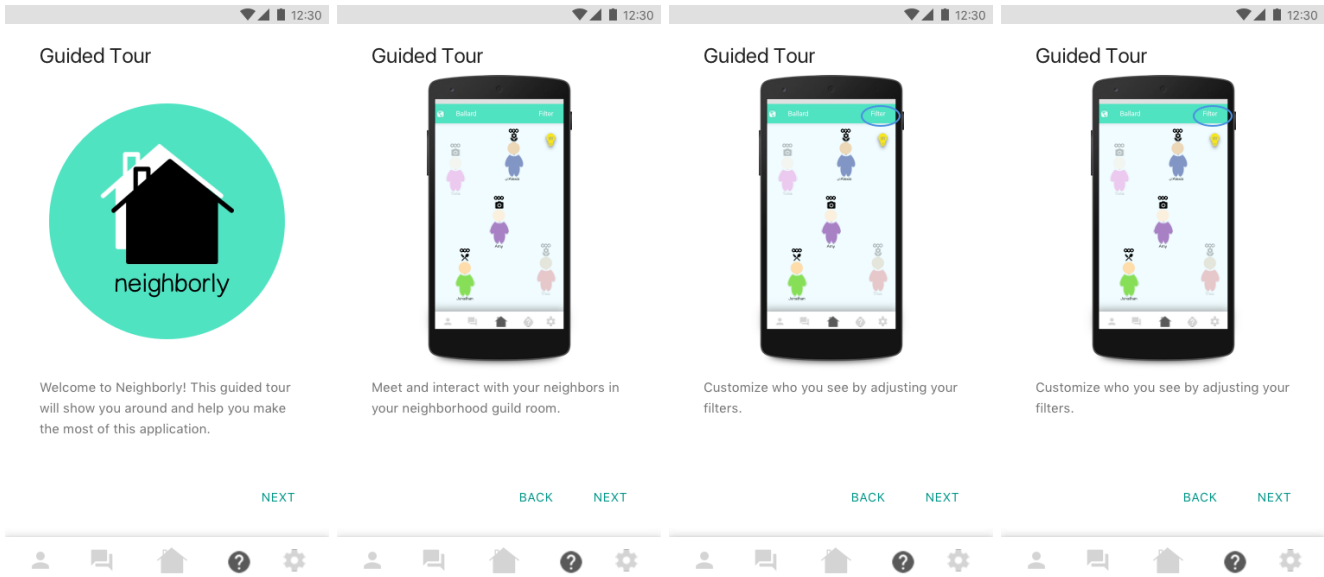
Guided Tour

Paper Prototype

Digital Mockup

Guided Tour

Welcome to Neighborly! This guided tour will show you around and help you make the most of this application.

NEXT

Guided Tour

Meet and interact with your neighbors in your neighborhood guild room.

BACK   NEXT

Guided Tour

Customize who you see by adjusting your filters.

BACK   NEXT

Guided Tour

Customize who you see by adjusting your filters.

BACK   NEXT

Guided Tour

The icons surrounding an avatar have specific meanings.

BACK   NEXT

Guided Tour

✓Alexis

The insignia directly above an avatar's head represents the top skill he or she has identified. The flower above Alexis's head shows that her top skill is gardening.

BACK   NEXT

Guided Tour

Beginner
Intermediate
Expert

✓Alexis

These three circles denote how proficient avatars are in their top skills. Alexis has identified herself as an intermediate gardener.
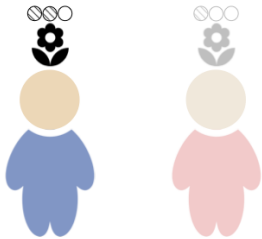
BACK   NEXT

Guided Tour

✓Alexis

If you see an avatar with a checkmark next to their name, this means that this avatar is one of your connections.
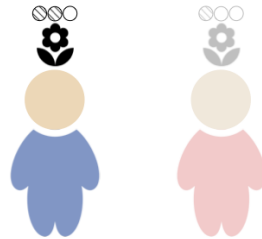
BACK   NEXT

Guided Tour

✓Alexis   Thuc

Avatars appear in their neighborhood room at all times, even when they are inactive. Neighbors currently online have opaque avatars, while inactive neighbors have more transparent avatars.

BACK   NEXT

Guided Tour

✓Alexis   Thuc

Alexis's avatar is solid, meaning she is currently active. Thuc's avatar is more transparent because he is not currently online.

BACK   DONE