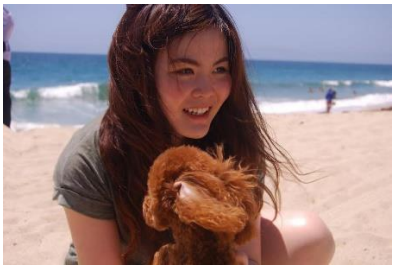
Seattle Defroster

Team



Cyndi Ai
Web Designer

Esther Chen
Digital Mockup Senpai

Ben Schiffler
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Sean Yang
Design Presenter

Problem and Solution

Our design focuses on smoothing the process of moving to Seattle from a long distance away, by helping empower these new movers with the right tools for this process. We choose Seattle specifically for this project because we want to focus on one specific city that we all familiar with as a starting point. Our group has a good mix variety of Seattle local and those who move to Seattle at different time period. Additionally, Seattle has a rising job market and new people move here daily, many without any connections in the city, which can make this process incredibly difficult. We also figured that the Seattle Freeze is a real thing that makes these people new to the city even harder to fit themselves in.

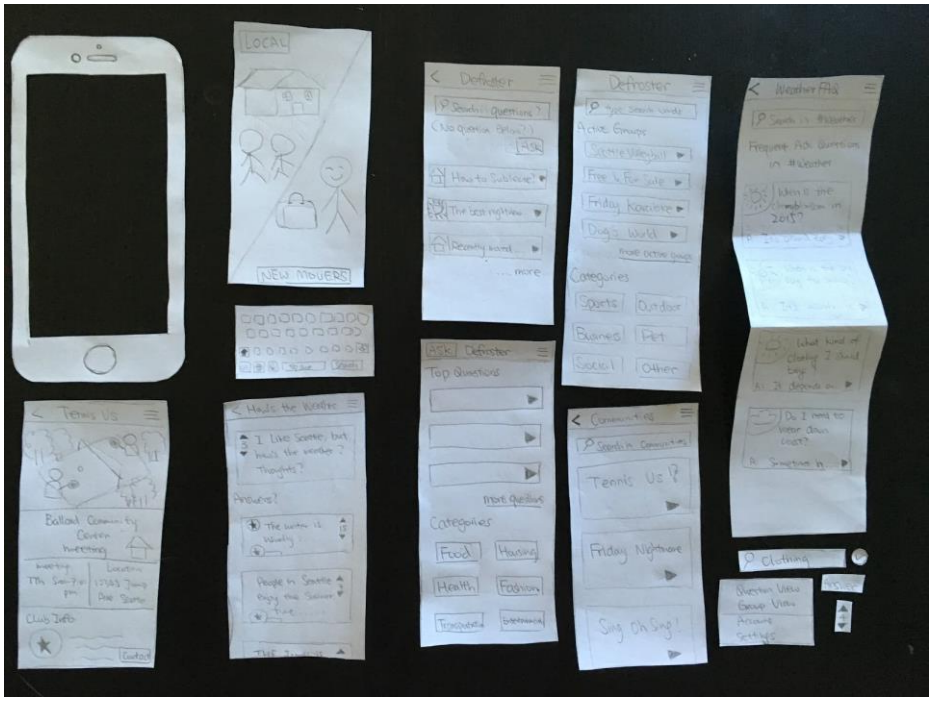
Our Contextual Inquiries taught us that the most useful tools we can provide are connections to locals in the area. On one side, it helped to have local-specific information, such as weather, fashion, recreational, and other information hard to find when not told firsthand. From another side, providing strong connections to locals in special interest groups to these new movers helped give them a support group, assistance, and access to a bank of knowledge these locals have innately.

We knew that motivating the locals to use our system would be a challenge, and after much deliberation we settled on a gamified and rewarding platform. For the local individuals, they would be rewarded for providing useful information and answering questions the new people ask. For the local interest groups, they will be rewarded by further advertising their communities and be pushed onto the top groups on the landing pages.

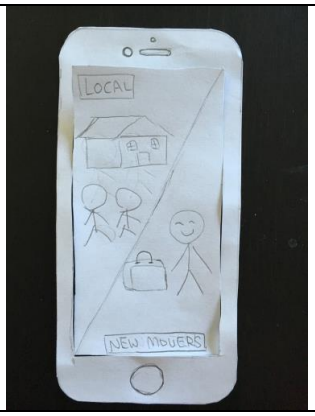
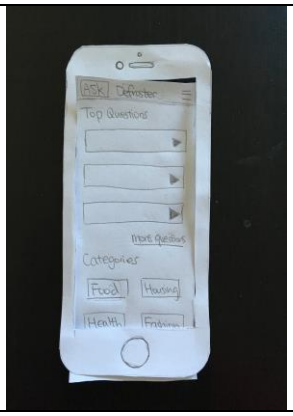
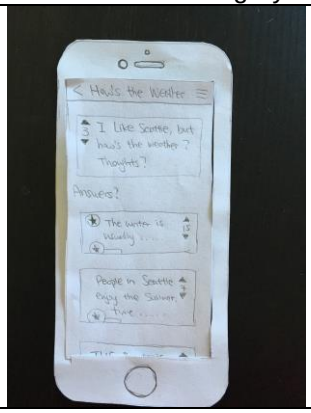
All this considered, our solution became simple: to create a platform that would allow new movers to communicate and build connections with locals. First, it would provide a forum for new movers to ask local-specific questions within the corresponding category and receive answers from locals motivated by our gamification systems. Second, we will provide interest specific groups that attract the new movers to join in order to be further connected and hopefully help smoothing their moving process. Thus our platform helps building strong, motivated connections between new movers and local residents, helping to make the process of moving to Seattle a pleasant one.

Initial Paper Prototype

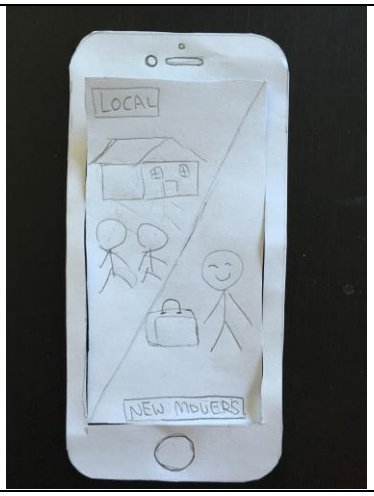
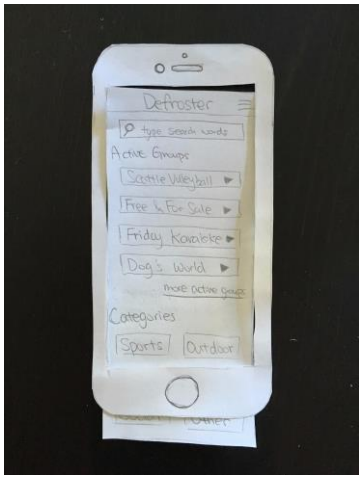
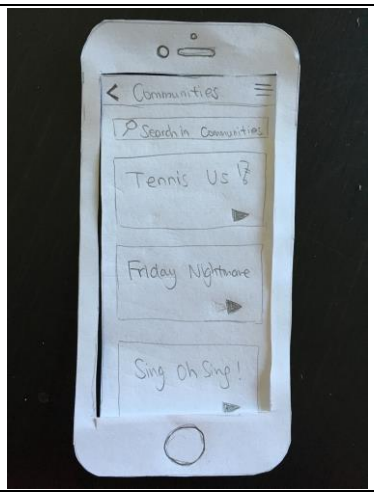
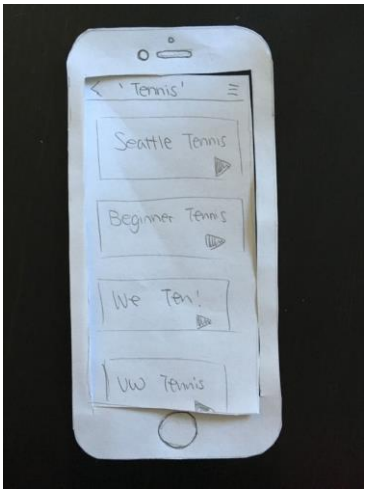
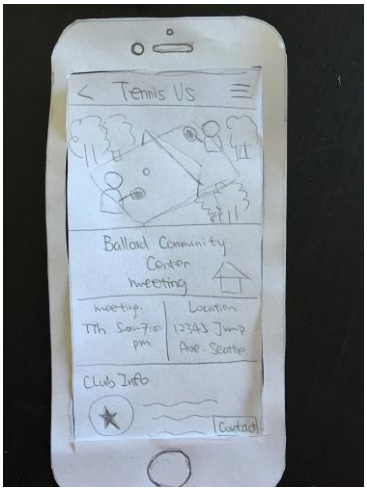
Overview



Task 1 : Finding Local-Specific Information

		
The homepage. Users can choose between new mover/local.	We want to know the weather in Seattle, so we click it.	We want to search more specific questions in weather category
		
We type in clothing and hit enter.	It shows all questions related to clothing. We click the first one.	Here we go!!

Task 2 : Finding Interest Communities

		
The homepage. The user can choose if they are the new mover or the local. In this case, it's we click on new mover.	We want to see all groups, so we click on more active groups	We want to find "tennis" communities in particular, so we click on search bar.
		
The app shows a lists of tennis communities!! we click on the one we are interested in.	Here we go!	

Testing Process

Test Method

At the beginning of the test, we all provided our participants some background on our project and explained what they should be doing as the participant in a usability test, such as we would ask them to "think out loud". For the first and the second usability test, we used the tasks description listed below:

1. Imaging you are moving to Seattle very soon, and you were wondering how the weather is in Seattle over the summer. You're hoping to find the answer in this app.
2. Now, you are curious about how the weather will be in fall. (We are hoping the participant to use the asking-question function.
3. Now you are in Seattle, and you are a big fan of running. You want to find a running club nearby.

However, in the second test, the process was so smooth that we figured we must have done something wrong. We consulted Catie and Kelsey and we learned that we should try not to lead our participant by our description. Also, they also suggested us that we could print out our tasks for participant to check the tasks when needed. Additionally, making up some tasks that are not implemented also helps to spot some problems of our design. Here's our revision of our tasks description for the third usability test:

1. Can you find a running club that you think would suit you best?
2. Could you find information about the most popular yoga club in Seattle?
3. Try to find a Ballard Badminton club's meeting times.
4. What is the weather like in Seattle in the Summer? How would you use Defroster to try to find that information out?
5. What is the coldest day in Seattle? How would you use Defroster to find that out?

We printed out our tasks description and gave it to our third participant. This method was very useful and we got some constructive feedback from our third usability test.

Test Participants

Our first test participant was Bruce, who is also taking this class. He is a perfect usability participant for three reasons. First, he is majoring in CSE, which gives him a great sense of using technology. Secondly, he is an international student. He moved here from China three years ago. He could give us some great perspectives as a mover to Seattle. Last but not the least, he is also taking this class. He understands the whole usability process and what needs to be paid attention to, which made the test process easier and more smooth. Even though he is in the same section as us, but he is not very familiar with our design.

Our second test participant was Phina, who is a first year master student in Electrical Engineering. She moved here from Taiwan last Autumn, so she is relatively new to this environment and is still be willing to explore Seattle.

Our third test participant was Cheryl, a Seattle local who moved here from Colorado when she was elementary school. She is a current UW student studying Computer Science, and is tech-savvy. She, as a user, was a good check to see whether or not the flow seemed intuitive to someone who had undergone this process before. As a Seattle local, she was helpful to show us if this process made sense specifically for Seattle, which was feedback we've received on previous assignments, to increase the reasoning behind making our platform specific to Seattle.

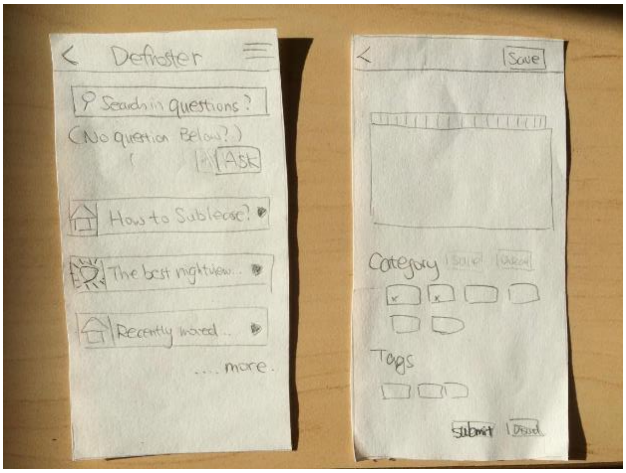
Testing Results

Heuristic Evaluation

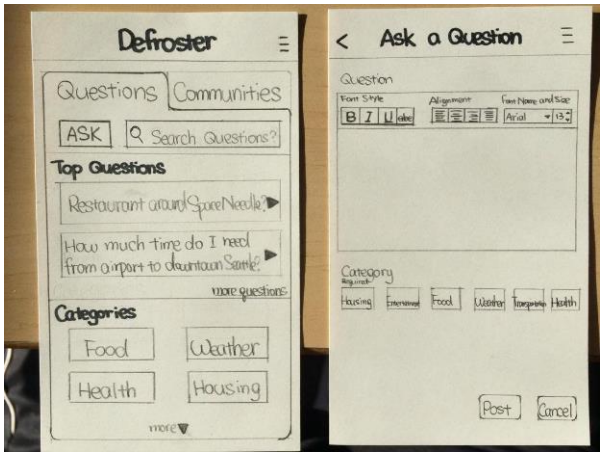
Our group identified several problems during our heuristic evaluation sessions. Here's are the problems and the modification for each problem:

1. We glared issue with the submission buttons. When users arrived at one, they were not sure where the forms would take them next after they clicked the button. We had previously made it so button clicks would take them to the page they were on last, but this got confusing quickly, as users were placed in the middle of flows which they did not mean or want to return to, and created strange states for the back button.

Old Model



New Model

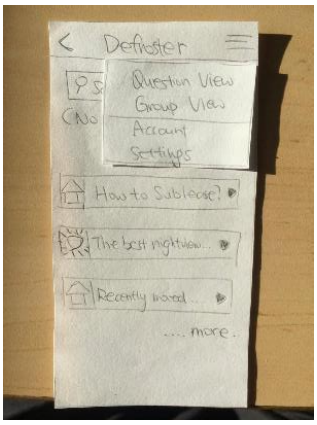


Revision:

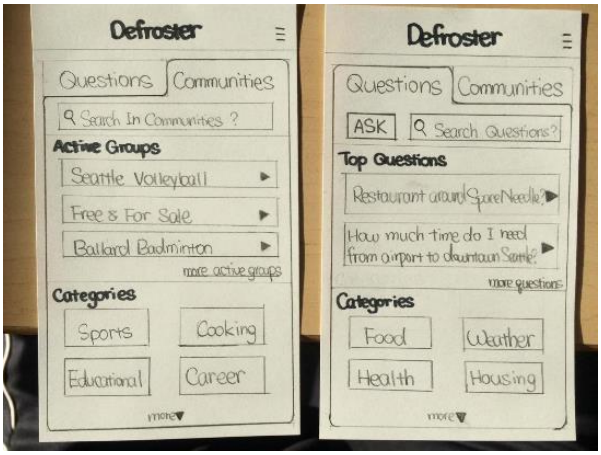
In order to fix this Heuristic Violation, we changed our "Submit Question" button to immediately send users to the home landing page. As users who were submitting questions clearly did not find an answer in their search, it did not make sense to send them back to their failed search, and sending them back to the landing screen helped clarify the now-linear flow of asking questions, and make our back buttons work as anticipated.

2. Our two main task flows - finding special interest groups and asking local-specific questions - are represented by two distinct states of our UI. Originally, we allowed users to change between these two states by opening a 3-line menu in the top right corner of the screen. This was very difficult for users to find, and made it unclear not only what state you currently were in, but also where to change between the two. This made the visibility of the current state of our design very unclear and tricky to follow.

Old Model



New Model



Revision:

In order to fix this Heuristic Violation, we moved the “Question View / Group View” selection from being a menu option on the menu in the top right of the screen to instead by two different selectable tabs shown in the top of the landing page. This allowed users to easier see the state of the system, and change their state from the most common page, the landing page. This makes the system design simpler, cleaner, and more immediately in the hands of the user, addressing this heuristic violation.

Summary of Usability Tests

Usability Test #1

We got very useful feedback during our first usability test. The participant was confused with submitting keyword for searching and how to be navigated to the page to ask a question. He also ignored the required item during asking a question process.

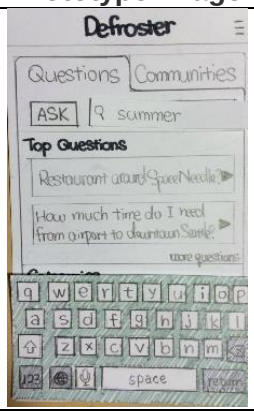
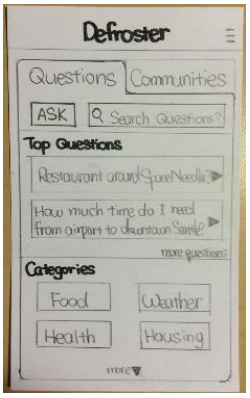
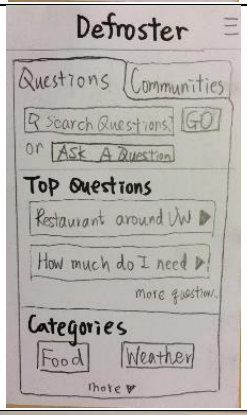
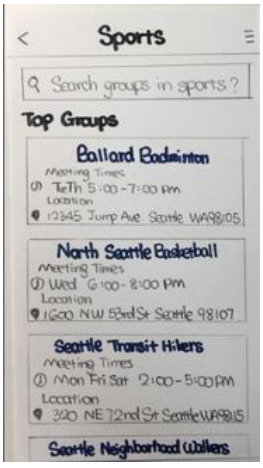
Usability Test #2

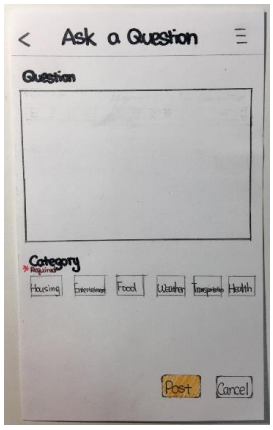
This usability test is awkwardly smooth. The participant didn’t find any problem of our design and we didn’t spot any potential revision to make. Therefore, as we mentioned in Testing Process section, we changed our testing method and it helped us to find some problems for our design in the third usability test.

Usability Test #3

The participant for this usability test offered some very constructive suggestions for our design. She mentioned that it would be better if we could show the location/time detail on the community list, because time and location are two important factors for people to decide. Plus, she also pointed out that choosing font style is not important in “Ask a Question” page. We agreed with both suggestions and made the modification.

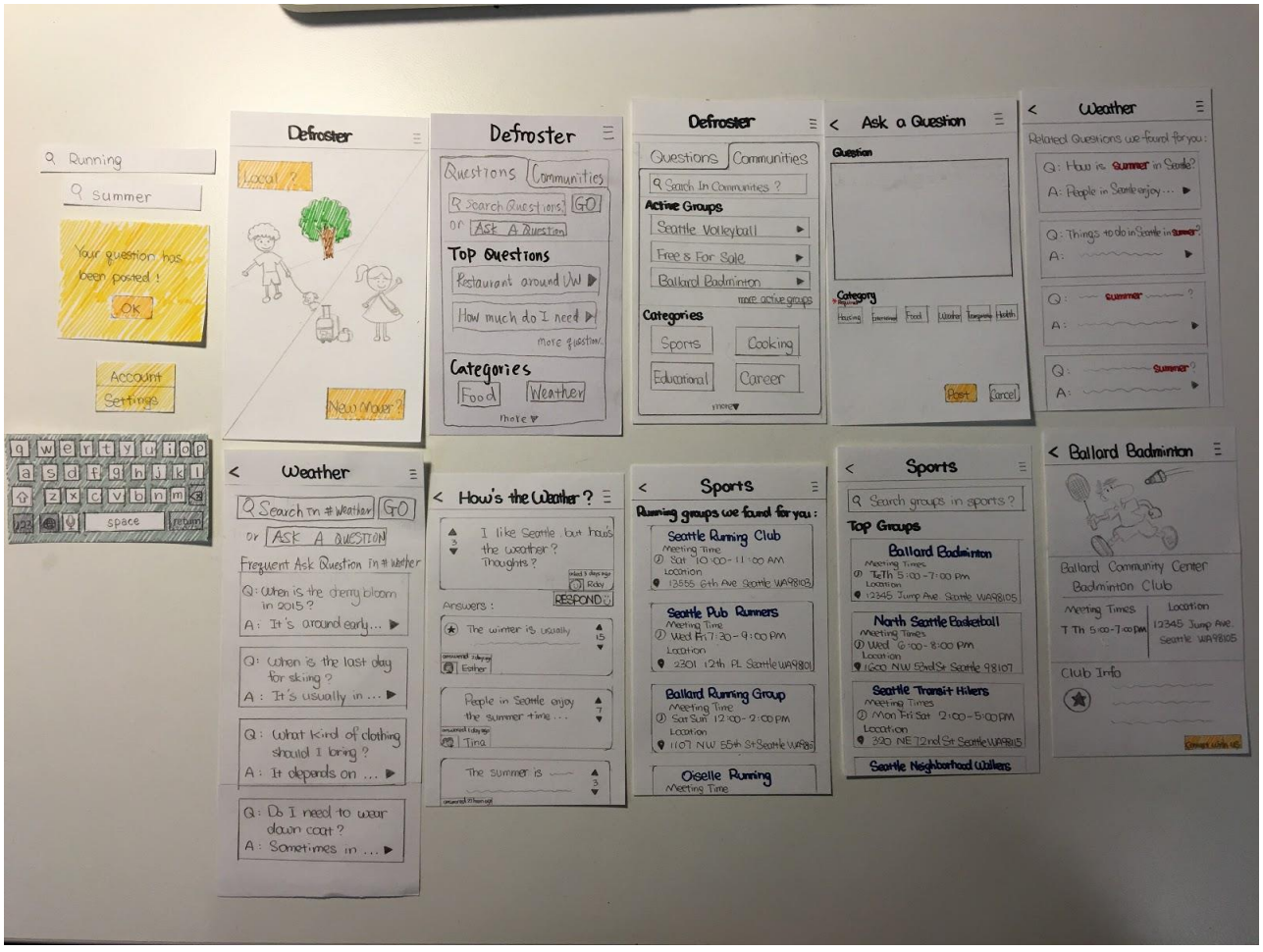
The table next two pages shows our detailed description for our modification during the usability tests.

Prototype Image	Incident Description	Revised Image	Revised Explanation
	Search button not clear. When the participant finished typing the key word, he didn't know how to submit the search request.		We add a "GO" button. The user would know to click the GO button after finish typing the question.
	Ask button is confusing. The participant didn't know he could click the "ASK" to ask a question.		We move the ask question button below the search bar.
	Required item is not clear. When the participant finished typing the question, he ignored the category section and just submitted. However, category choosing is required. (Please ignore the red star, we didn't have the red star when we did the usability test)		We add a red star next to the word require to make it more visible.
	Cheryl wished that she had a way, when searching for a community, to quickly access basic information about a group without navigating to their full page. Because certain information is very relevant to users, specifically meeting times and group locations, it does not make sense to just present users with a club title on search. While the information was still available, not making this a massive functionality issue, it still		We changed our search page for looking for special interests' groups to include some brief information on each group. Specifically, we list the meeting times and location of each group, if they have that information.

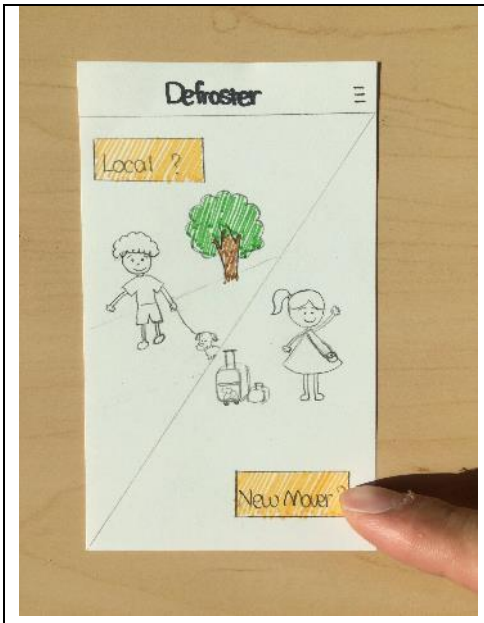
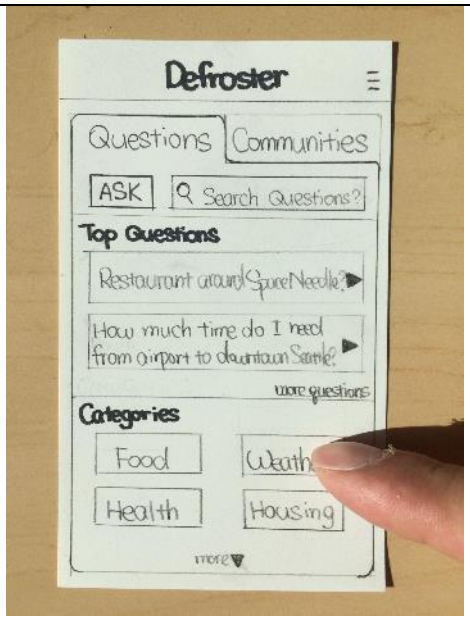
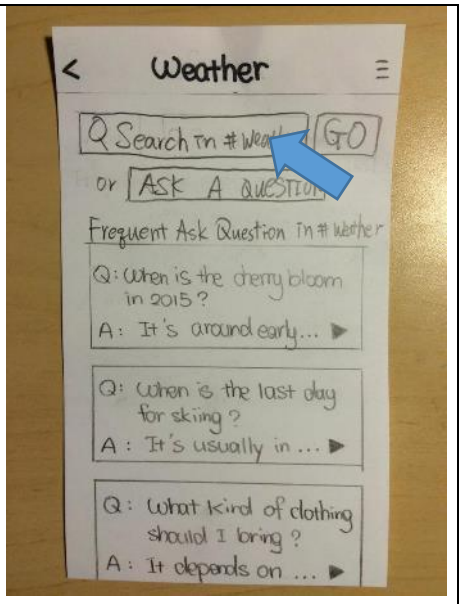
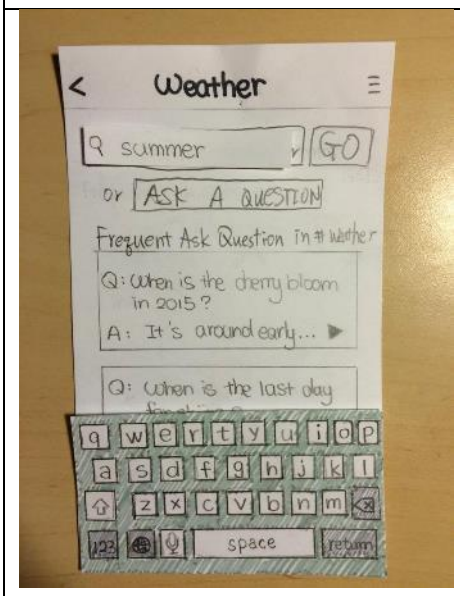
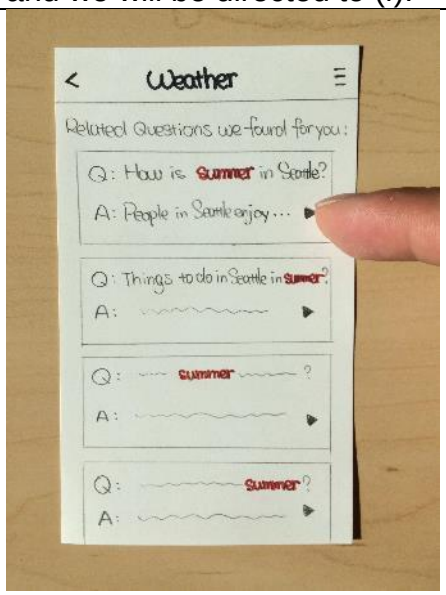
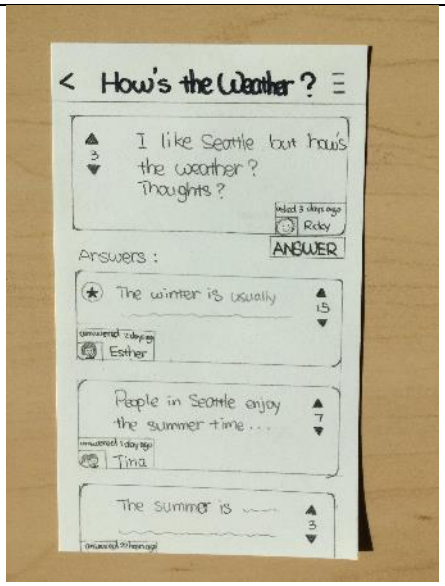
	heavily hampered searching for groups with specific constraints.		
	Cheryl found no need to adjust things like alignment, font size, and other text controls. As there isn't a need for specific formatting on questions, it makes the ask page simpler to remove unnecessary controls and simplify the interactions. While these options provided cosmetic control, they weren't useful or necessary for asking questions, and cluttered our design. Removing them made the design sleeker and simpler.		We removed the extra controls (the alignments, font size and typeface, and font style) from the ask-a-question, and replaced it with a simple text box.

Final Paper Prototype

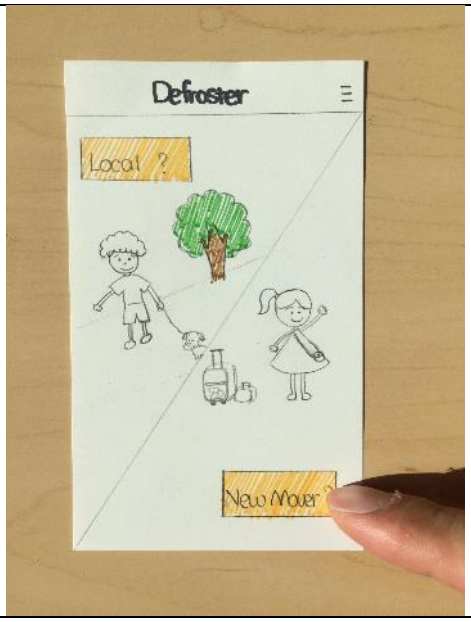
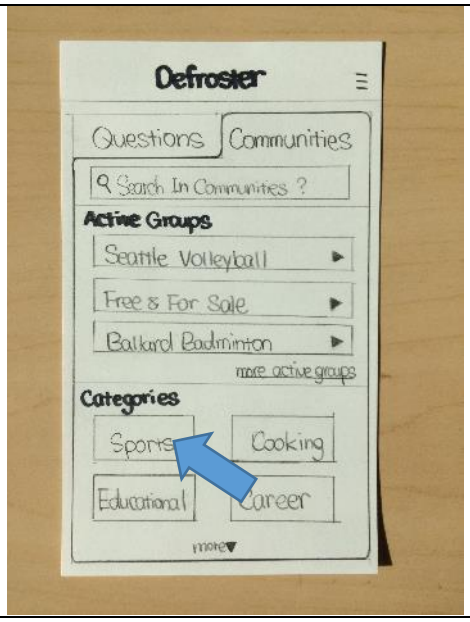
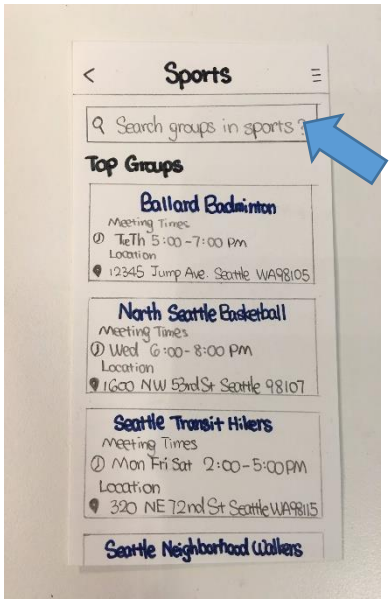
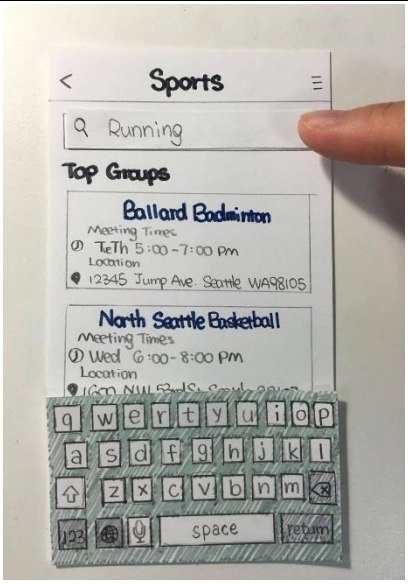
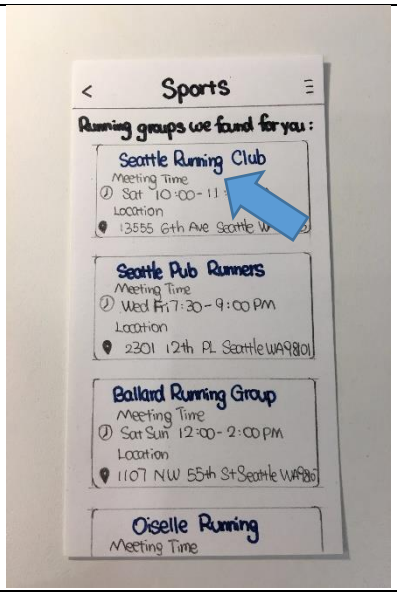
Final Paper Prototype Overview Image



Task 1: Finding Local-Specific Information
In this case, finding the information about summer in Seattle in particular.

		
a. The homepage. The user can choose if they are the new mover or the local. In this case, it's we click on new mover.	b. We want to know the weather in Seattle, so we click on weather. In another case if we see a top question interesting, we can click on it, and we will be directed to (f).	c. We want to search more specific questions about "summer" in Seattle, so we click on the search bar.
		
d. We type in summer, and click GO.	e. Here shows a list of the questions related to summer.	f. Here we go!!

Task 2: Finding local interest groups or communities
In this case, we want to find the running communities in Seattle in particular.

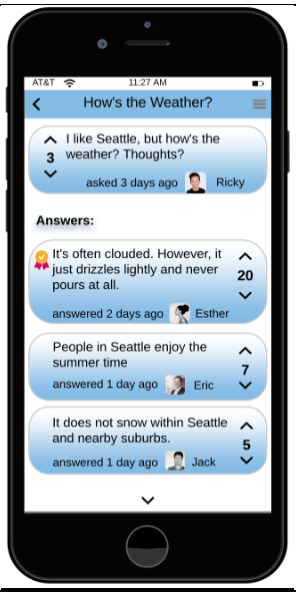
		
The homepage. The user can choose if they are the new mover or the local. In this case, it's we click on new mover.	We click on the sports under categories section. If we see some active groups that sounds interesting, we can also click on that	We want to find "running" communities in particular, so we click on search bar.
		
We typed in "running" and click "GO"	The app will show a lists of running communities!!	The information of the club will show up! (We didn't draw any for running club)

Digital Markup

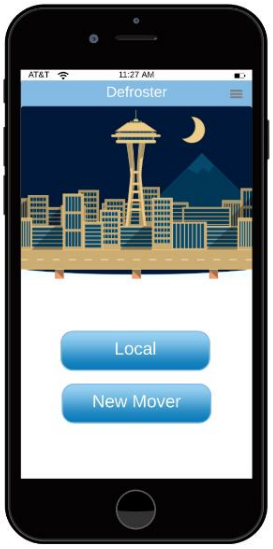
Our design features two main functions which are finding specific information for Seattle and searching for local communities. Aside from these, the application also provides function for users to ask questions related to Seattle.

Overview Image for Digital Markup

Task 1: Finding Local-Specific Information
In this case, finding the information about summer in Seattle in particular.

		
a. The homepage. The user can choose if they are the new mover or the local. In this case, it's we click on new mover.	b. We want to know the weather in Seattle, so we click on weather. In another case if we see a top question interesting, we can click on it, and we will be directed to (f).	c. We want to search more specific questions about "summer" in Seattle, so we click on the search bar.
		
d. We type in summer, and click GO.	e. Here shows a list of the questions related to summer.	f. Here we go!!

Task 2: Finding local interest groups or communities
In this case, we want to find the badminton communities in Seattle in particular.

<table>
<tr>
<td> 
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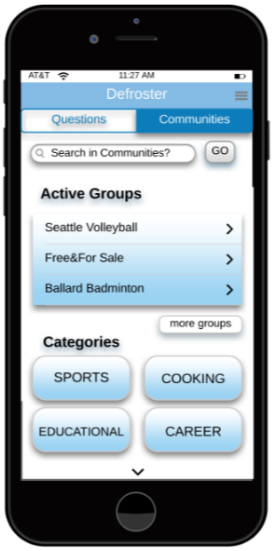
<td> 
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<tr>
<td>a. The homepage. The user can choose if they are the new mover or the local. In this case, it’s we click on new mover.</td>
<td>b. We click on the sports under categories section. If we see some active groups that sounds interesting, we can also click on that</td>
<td>c. We want to find “badminton” communities in particular, so we click on search bar.</td>
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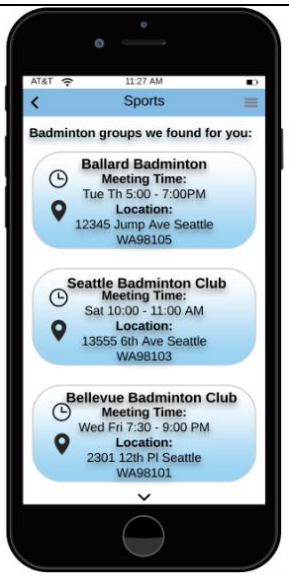
<td> 
</td>
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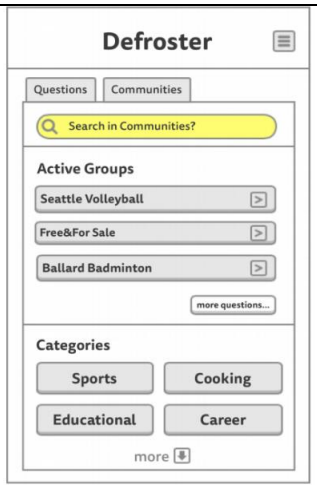
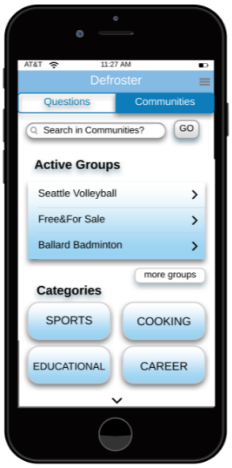
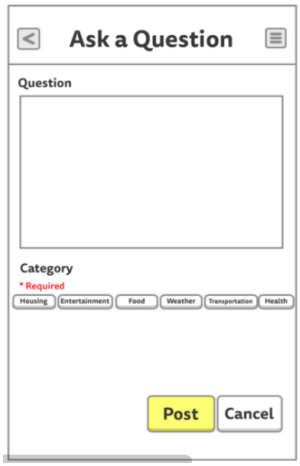
<tr>
<td>d. We typed in “badminton” and click “GO”</td>
<td>e. The app will show a lists of badminton communities!!</td>
<td>f. The information of the club will show up!</td>
</tr>
</table>

We didn’t make any changes when we switched from paper prototype to digital markup. However, we got some feedback for our digital markup during the section, and the next page are some revisions we’ve made:

Modification description	Original Digital Markup	New Digital Markup
On landing page, the previous version of digital markup doesn't highlight the tab where the user is at. We highlight the tab in our new digital markup and it is more clear now.		
Remove some confusing colors and adding some other to make the design more pleasant.		
Enlarge font size of the categories on "Asking a Question" page.		

Discussion

The iterative design process was very illuminative, both in terms of teaching us about the design process and about our specific design. In terms of process, we learned that it was very important to not give our users too much extraneous information as we tested them, making sure that we weren't accidentally walking them through critical points in our design. We also learned to make sure our tasks and our design were clearly organized and well designated. The vast majority of our critical points came from informational and navigational model concerns, which both could be course corrected by a clear organizational flow. In terms of our design, we learned that very small details on where we presented information or navigation options could drastically increase or decrease the usability of our app. Similarly, when we found we had a clear model of how our app worked and the flow of tasks through the app, this tended to come across to our users - and when we didn't, it didn't come across well to then. Therefore, focusing our efforts on the elements of our design that were confusing in terms of conceptual model was helpful to make the use of our platform all the more effective.

Our final design has definitely improved in terms of clarity and organizational flow as a result of our usability tests. We learned several parts of our app, like text styling, were not necessary and could help clean the design up. On the other hand, we learned that other parts of our app, like changing community/questions mode and searching for specific results, unintentionally obfuscated information. Both cases helped us clarify information make the process of using the app more intuitive.

Our tasks have shifted only subtly as a result of our usability tests, mainly in terms of clarity and definition. Our two main tasks are finding special interests groups and finding local-specific information, and these still are accurate descriptions of the tasks we find users wanting and able to do. That said, in our early tests there was some confusion of one task versus others, so we worked to clarify the modes of the app so that users could better know which state they were in. We also worked hard to better phrase our specific usability questions we asked users in their usability tests, as it was easy to spoon-feed the correct actions to our users by using improper wording. In general, this helped us distinguish the two tasks based on their end goal - connecting with other people (special interest groups), or connecting with specific information (finding the local-specific information). This didn't necessary broaden or shrink our task space, but it did help us define what the two meant and how they could be accomplished by our design.

Certainly one can always use more iterations on a design, especially given the short time frame we had of only 10 weeks. This is a short time frame to take a design from research through final communication. That said, we believe we hit a good middle ground, getting the most out of our iterations by making quick and informative changes to the design through the process. However, due to the nature of our app as a two-sided design (one for locals, one for new movers), it would have been nice to consider the other side of the design for locals as well, as this would likely reveal useful feedback about the overall product. There might be some interesting edge cases where the two overlap that we just couldn't see in our iterations as we were limited by the scope of the time constraints. Though it would have been nice to get it in the hands of more users, or implement more tasks, we were efficient with the time we had and are happy with where the solution ended up.

Appendix

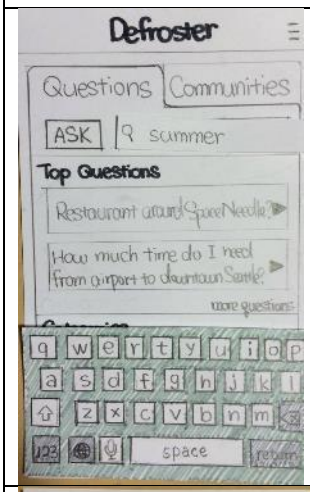
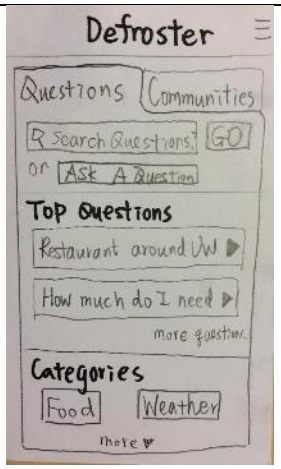
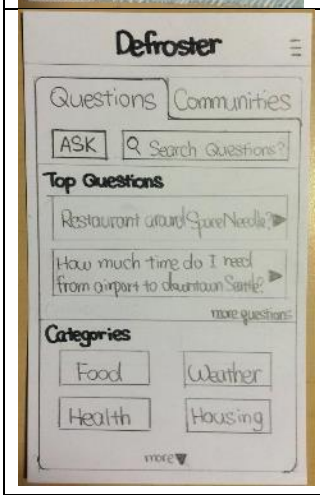
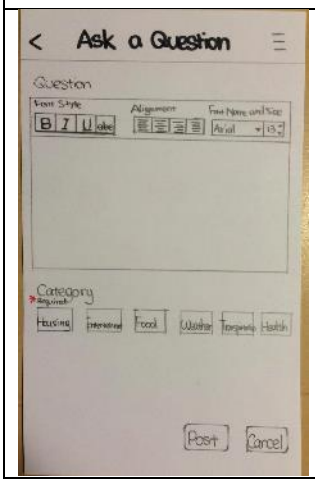
Task Description for Usability Test #1 and Usability Test #2

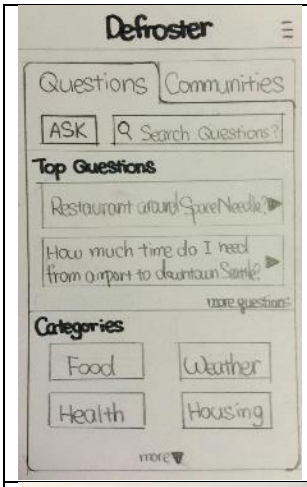
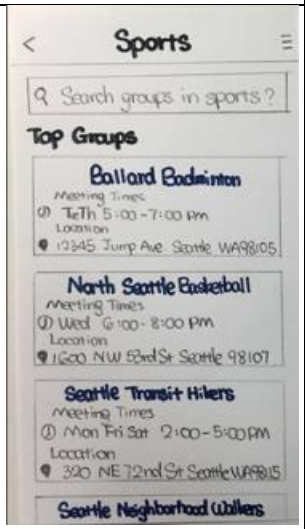
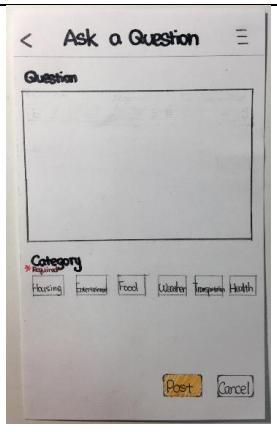
1. Imaging you are moving to Seattle very soon, and you were wondering how the weather is in Seattle over the summer. You're hoping to find the answer in this app.
2. Now, you are curious about how the weather will be in fall. (We are hoping the participant to use the asking-question function.
3. Now you are in Seattle, and you are a big fan of running. You want to find a running club nearby.

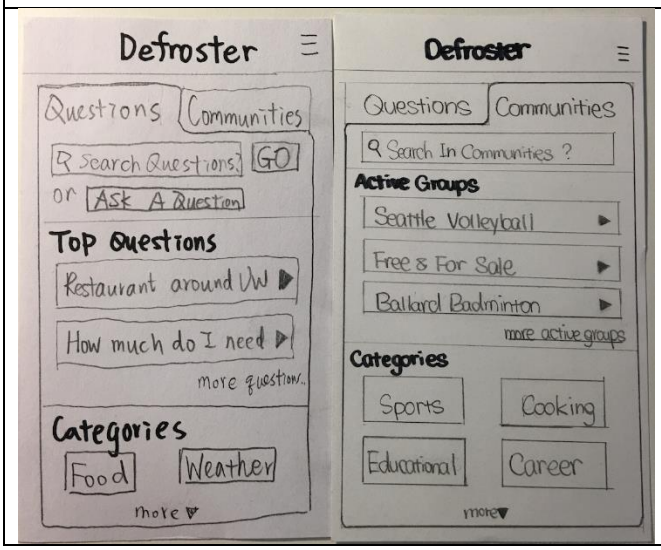
Task Description for Usability Test #3

1. Can you find a running club that you think would suit you best?
2. Could you find information about the most popular yoga club in Seattle?
3. Try to find a Ballard Badminton club's meeting times.
4. What is the weather like in Seattle in the Summer? How would you use Defroster to try to find that information out?
5. What is the coldest day in Seattle? How would you use Defroster to find that out?

Critical Incidents:

Prototype Image	Incident Description	Issue Severity	Revised Image (Negative Only)	Revised Explanation (Negative Only)
	Search button not clear. When the participant finished typing the key word, he didn't know how to submit the search request.	2		We add a "GO" button. The user would know to click the GO button after finish typing the question.
	Ask button is confusing. The participant didn't know he could click the "ASK" to ask a question.	4		We move the ask question button below the search bar.
	Required item is not clear. When the participant finished typing the question, he ignored the category section and just submitted. However, category choosing is required. (Please ignore the red star, we didn't have the red star when we did the usability test)	2		We add a red star next to the word require to make it more visible.

	During the task of "searching the questions about weather", the participant searched by search bar instead of using the category tag.	0		
	Cheryl wished that she had a way, when searching for a community, to quickly access basic information about a group without navigating to their full page. Because certain information is very relevant to users, specifically meeting times and group locations, it does not make sense to just present users with a club title on search. While the information was still available, not making this a massive functionality issue, it still heavily hampered searching for groups with specific constraints.	2		We changed our search page for looking for special interests' groups to include some brief information on each group. Specifically, we list the meeting times and location of each group, if they have that information.
	Cheryl found no need to adjust things like alignment, font size, and other text controls. As there isn't a need for specific formatting on questions, it makes the ask page simpler to remove unnecessary controls and simplify the interactions. While these options provided cosmetic control, they weren't useful or necessary for asking questions, and cluttered our design. Removing them made the design sleeker and simpler.			We removed the extra controls (the alignments, font size and typeface, and font style) from the ask-a-question, and replaced it with a simple text box.

Positive	
	Cheryl returned several times to our landing page, but it was always clear which of the two sides, new movers or locals, she should pick. In general, across all our tests, navigating the landing page was constantly simple which allowed greater state complexity in our later pages.