

spqr



experience language



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Usability Testing

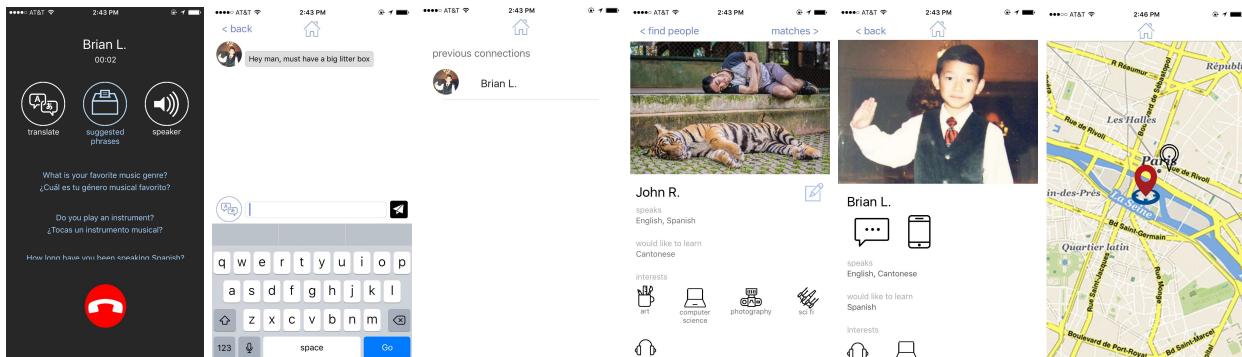


John R.

Value proposition: Language learning custom-made for your interests, needs and convenience

Problem: Existing language learning apps don't offer the necessary conditions for successful language learning to occur

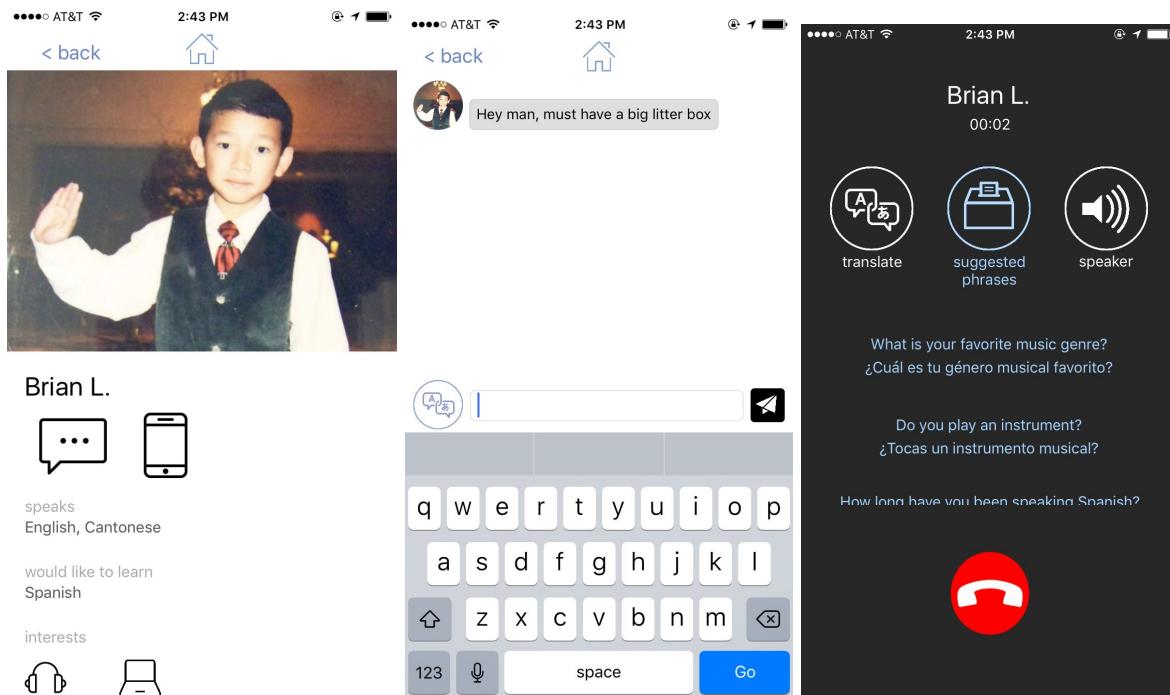
Solution: Identify and address these conditions through app features: introduce opportunity for real-life practice with individuals with similar interests and language learning needs



Tasks & final interface scenarios

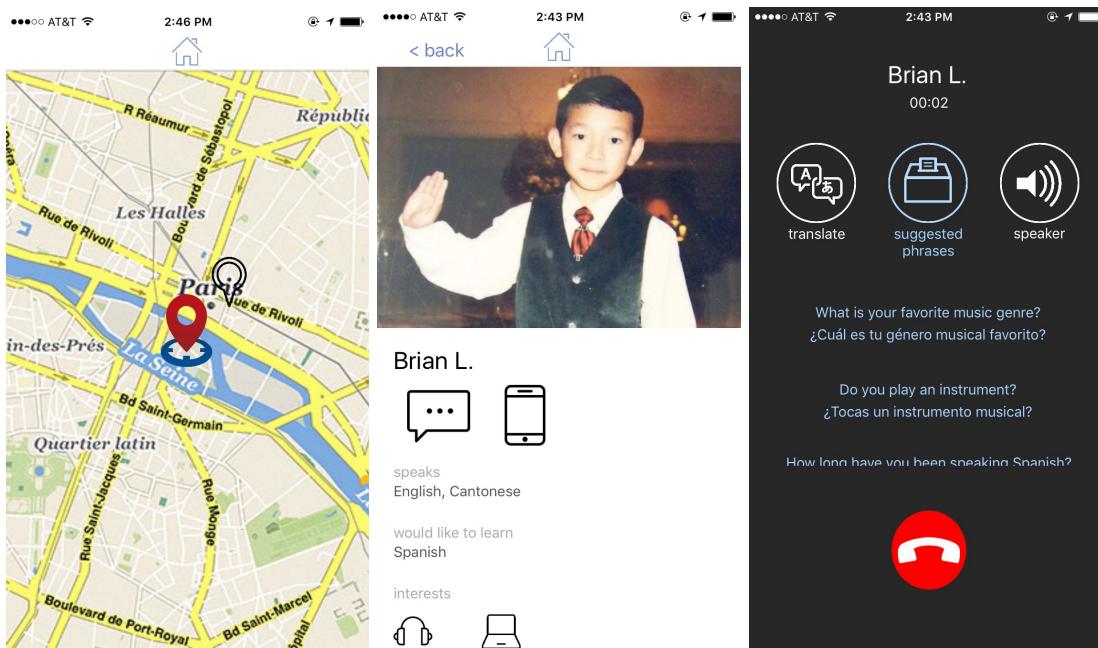
Task I (simple): Learn vocabulary and phrases tailored to your interests in a conversational context

We chose this task because we wanted users to be able to learn language in a more personalized way rather than stock phrases from textbooks or traditional language classes. This task can be accomplished through a text messaging interface or a phone interface. For both of them, suggested phrases and translations can be accessed easily.



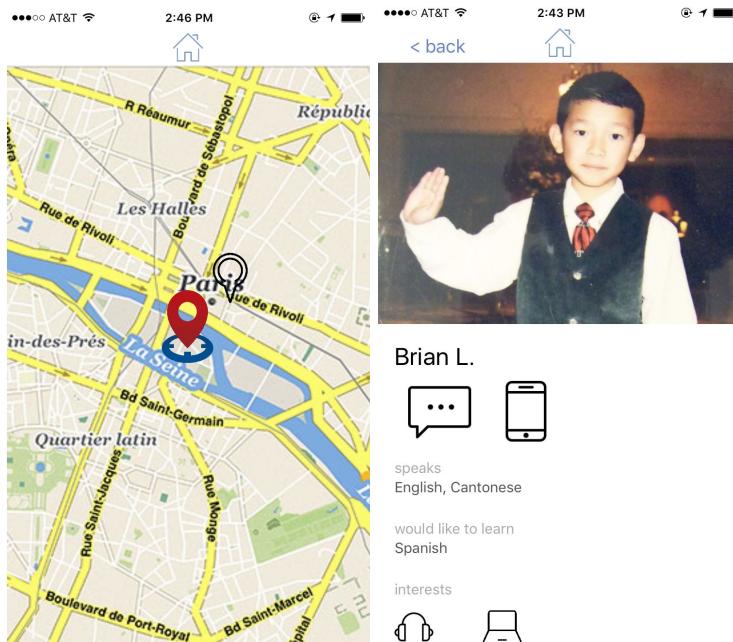
Task 2 (moderate): Have a real-time conversation with a speaker of the foreign language

This task helps users practice the language in a natural way rather than artificial dialogues that are common in traditional language classes. This task can be accomplished by searching the map for a user with complementary language abilities and needs, and then having a phone conversation.



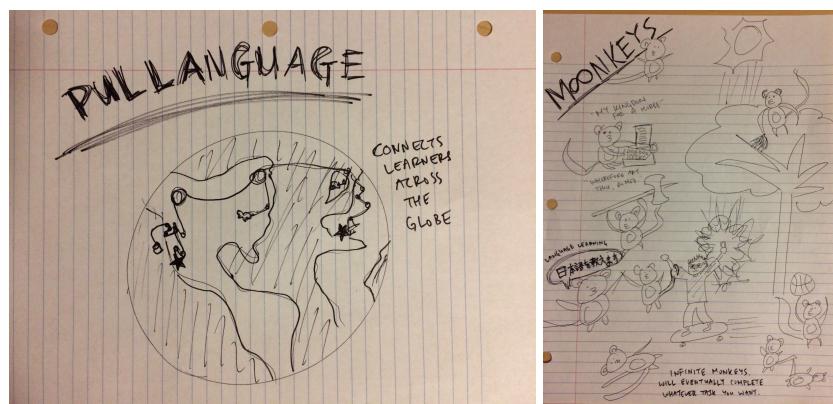
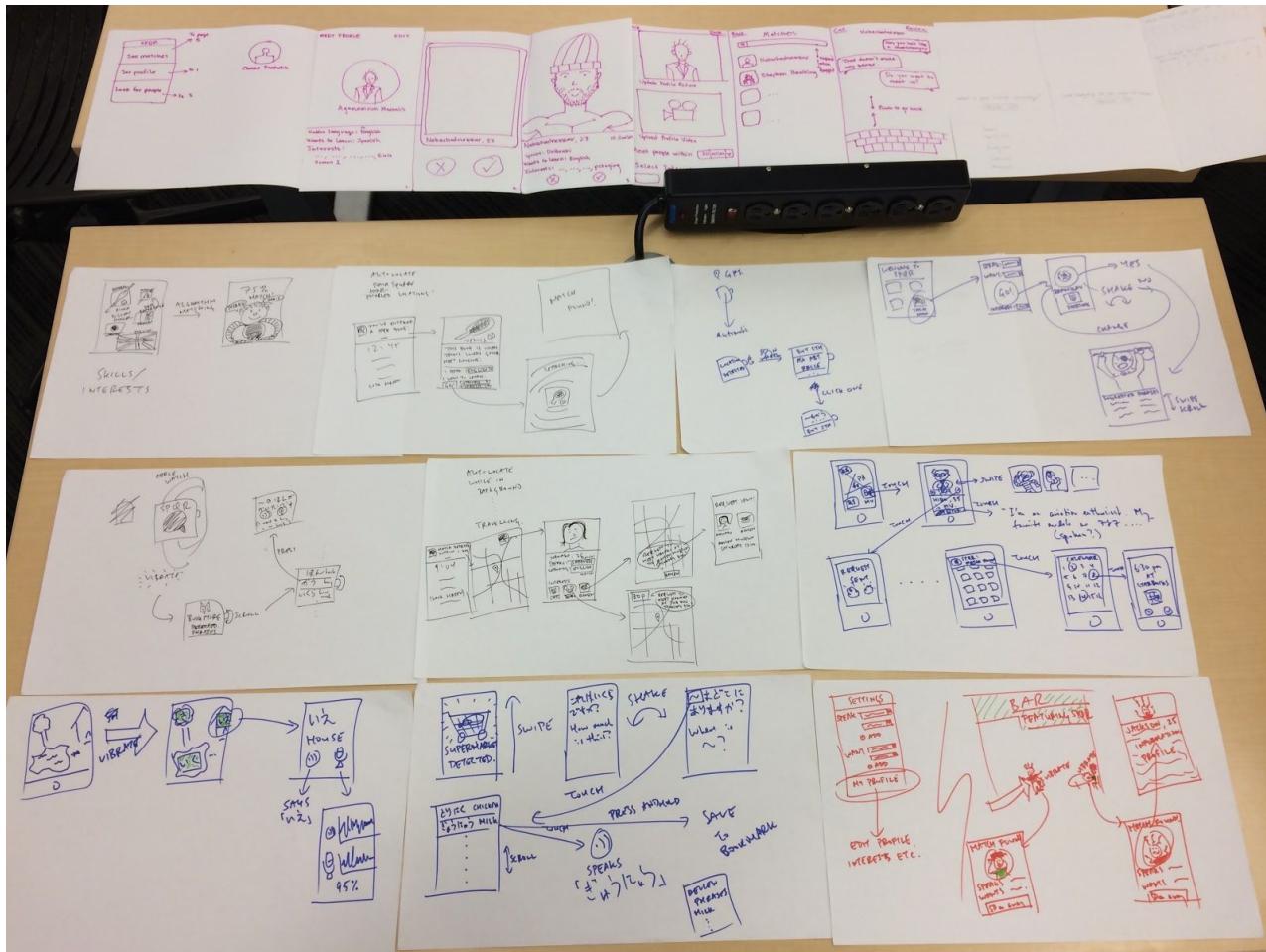
Task 3 (complex): Meet people nearby with similar interests and opposite language needs

This allows for two-way learning and avoids the awkwardness of “language partners” where the two people have nothing in common. This task can be accomplished by searching the map for people nearby, checking their profiles, and connecting through text messaging or phone conversations. The map automatically indicates people with complementary language needs, and improved functionality would allow highlighting people with shared interests as well.



Design evolution

Figures 1a, 1b, 1c. Concept sketches



Concept sketches

We brainstormed several ideas to explore different interfaces and ways in which users could potentially interact and act within the language learning space. Most of these ideas revolved

around smartphones, but some other ideas involving smartwatches and physical objects were useful as a brainstorming exercise to break through thought barriers and allow for ideas to flow unimpeded. Figures 1a-1c show the results of the brainstorming sessions.

UI sketches

From these various concepts, we chose three diverse ideas that would allow us to explore the space from different angles and think about how users might accomplish our tasks from each perspective. Figures 2a-2c show the concepts we sketched out in more detail.

Figure 2a. UI Sketch I

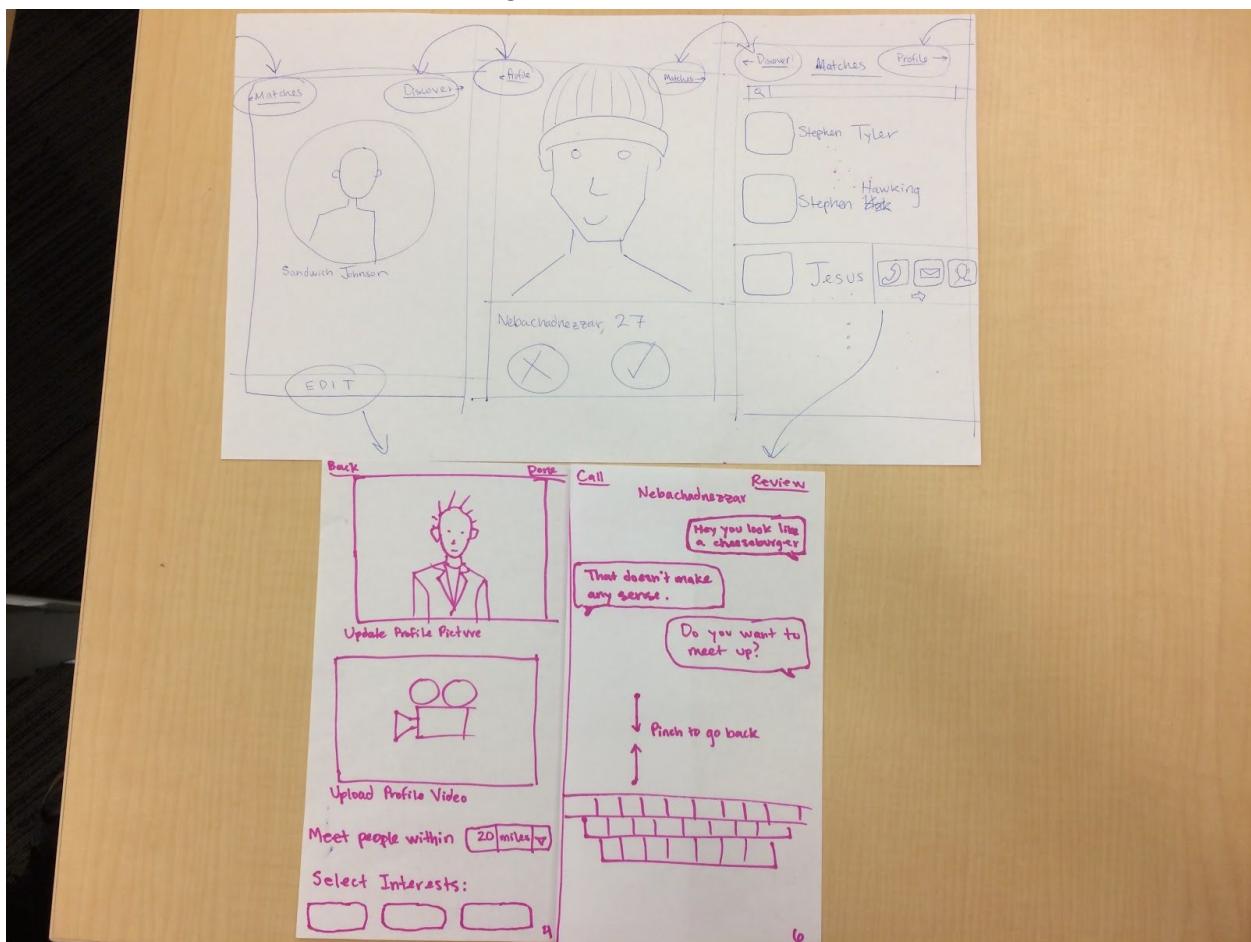


Figure 2b. UI Sketch 2

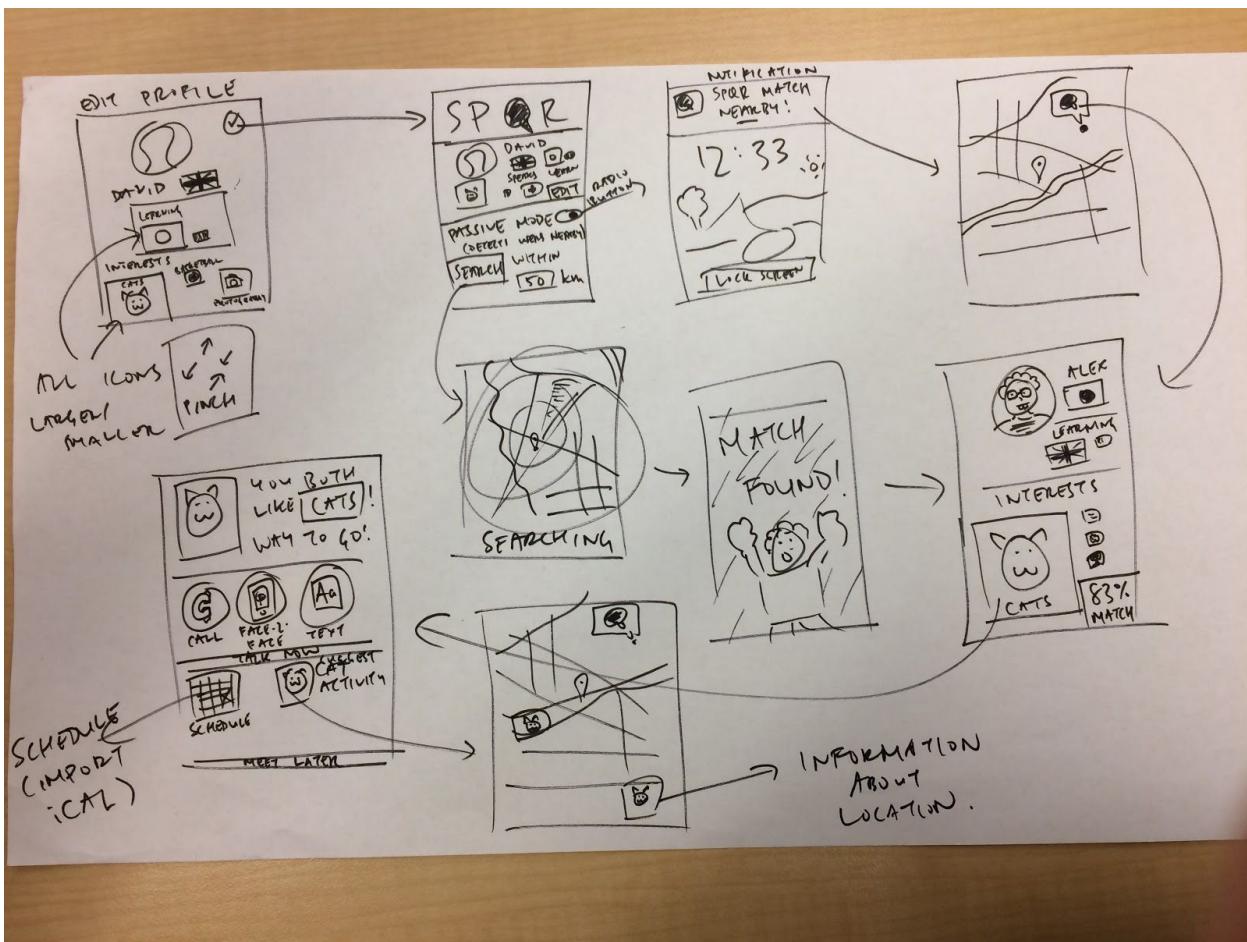
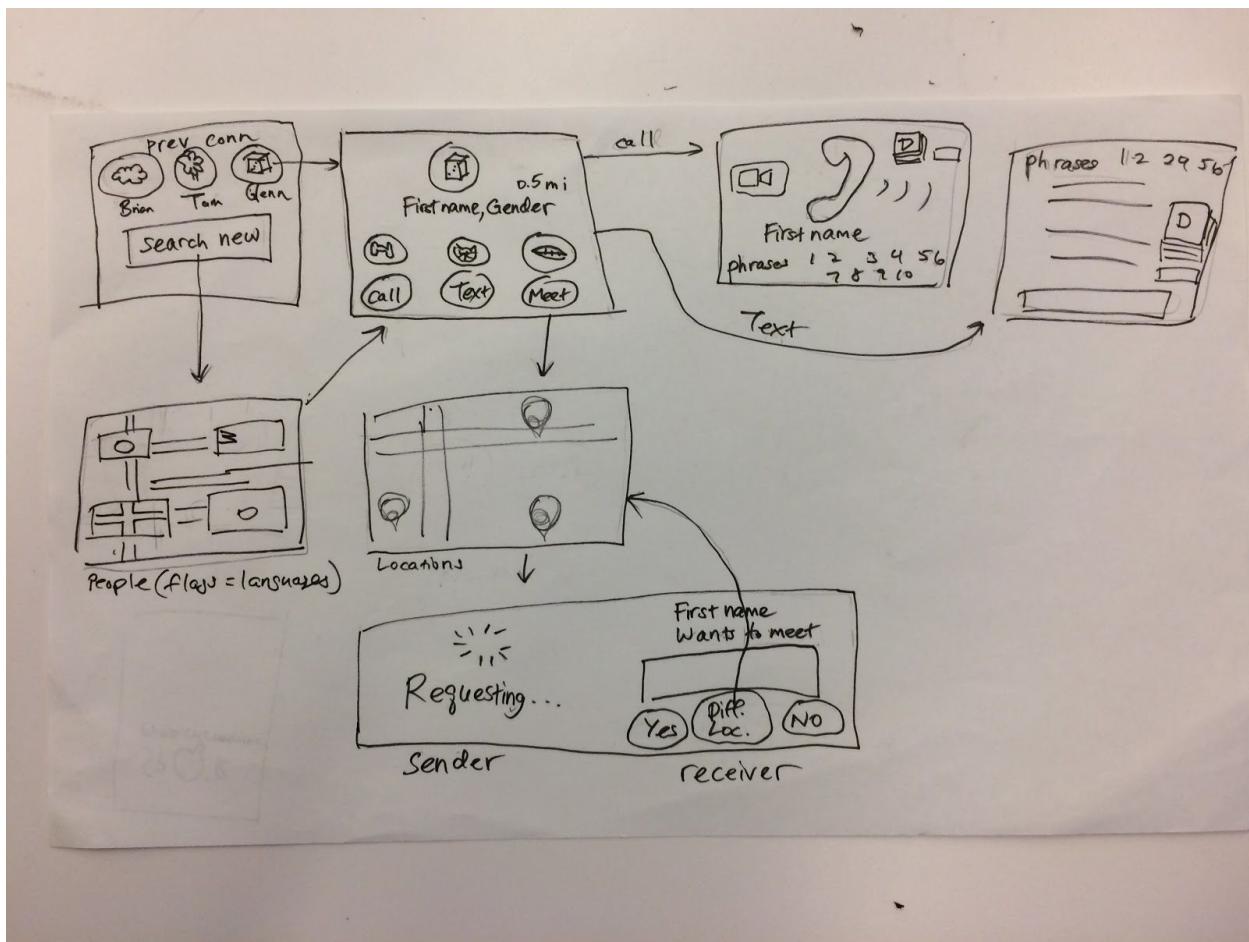


Figure 2c. UI Sketch 3



We decided to move forward with UI Sketch 3 (Figure 2c), which allowed for more natural expression and integration of the tasks within the concept, putting the focus on those tasks instead of on the specific user and his/her profile.

UI storyboards

With such a limited number of screens, it was simple to storyboard the task flows for each of our three tasks (Figures 3a-3c).

Figure 3a. UI Storyboard for Task 1 (simple):

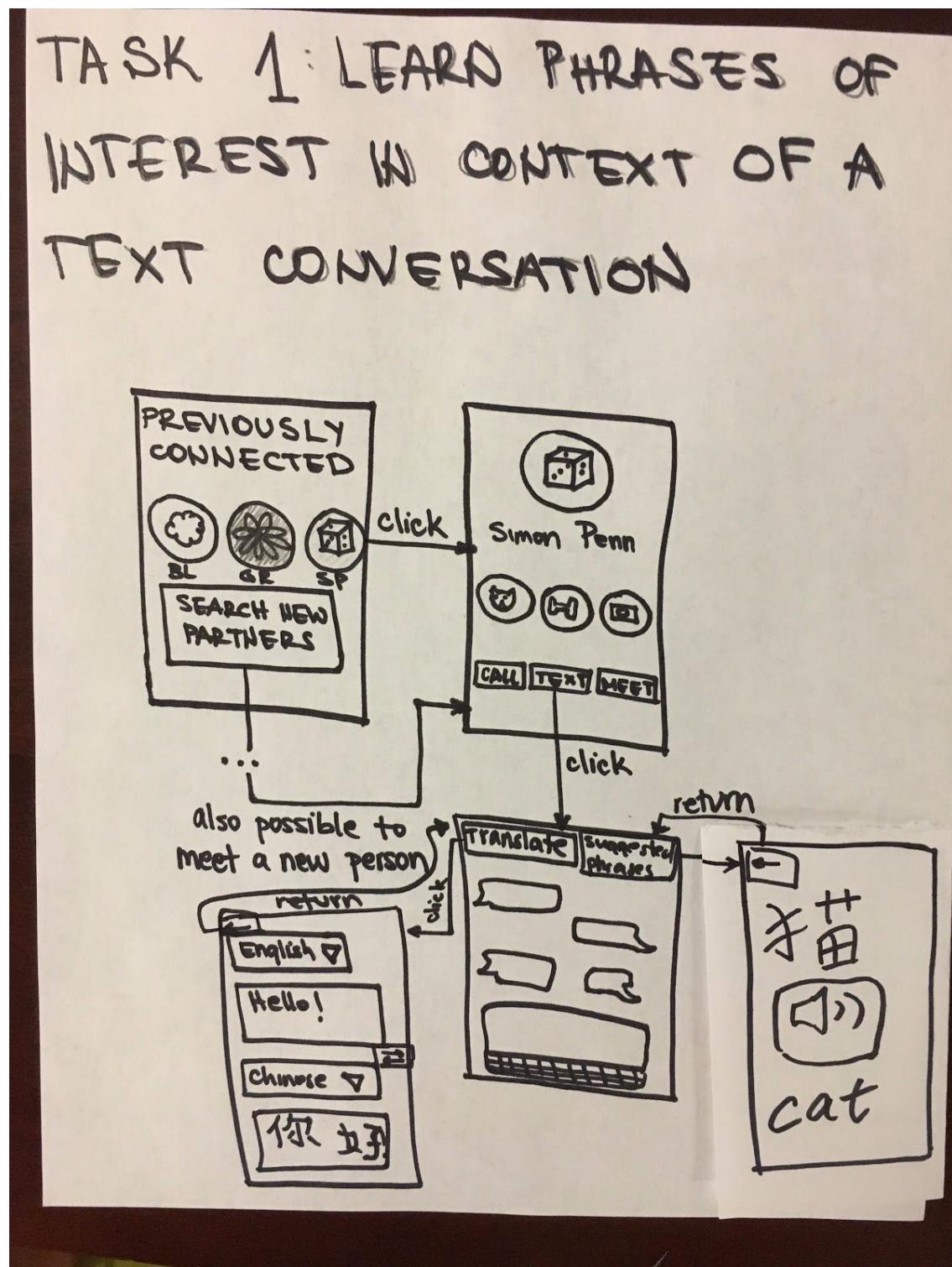


Figure 3b. UI Storyboard for Task 2 (moderate):



Figure 3c. UI Storyboard for Task 3 (complex):

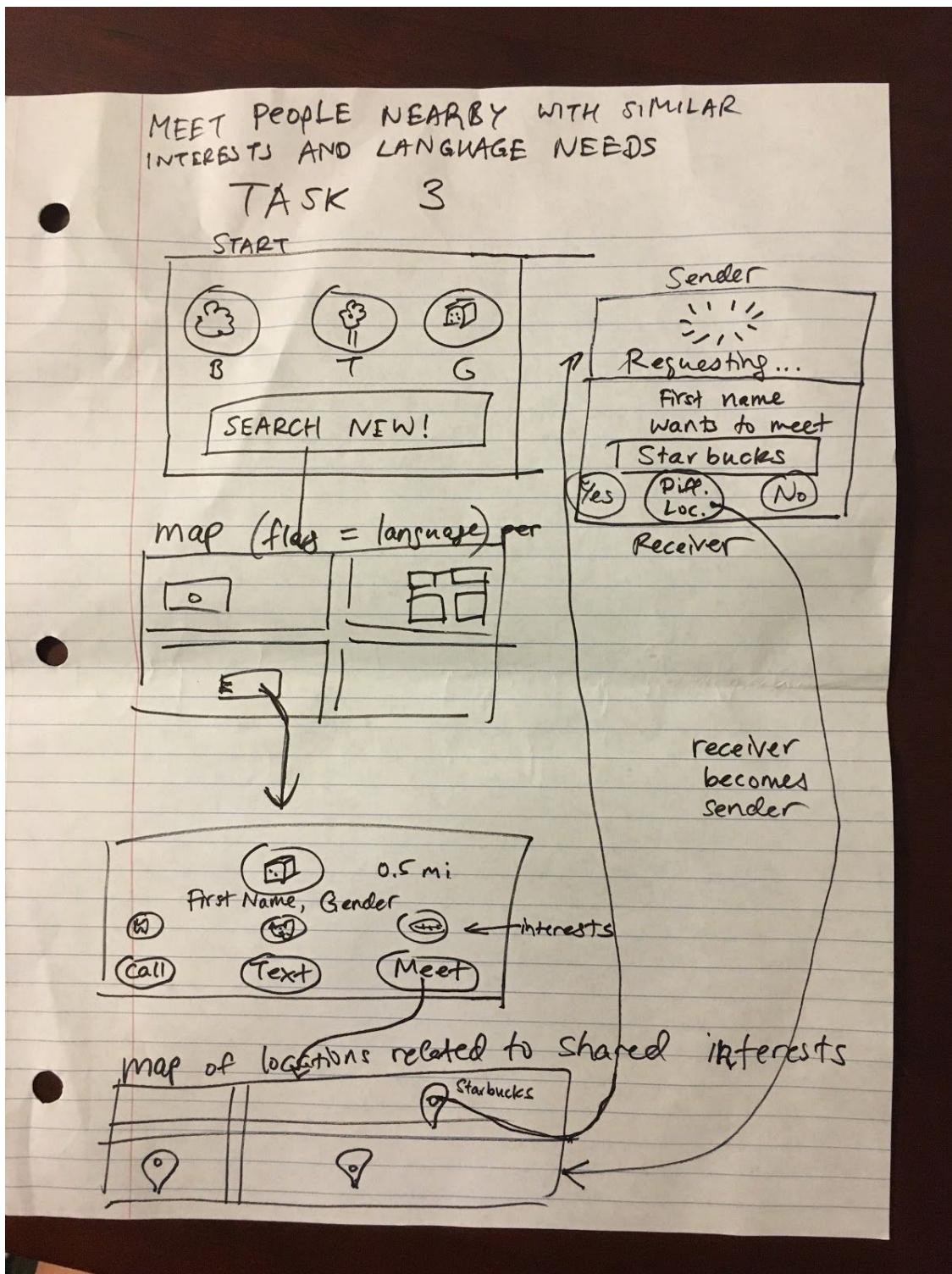
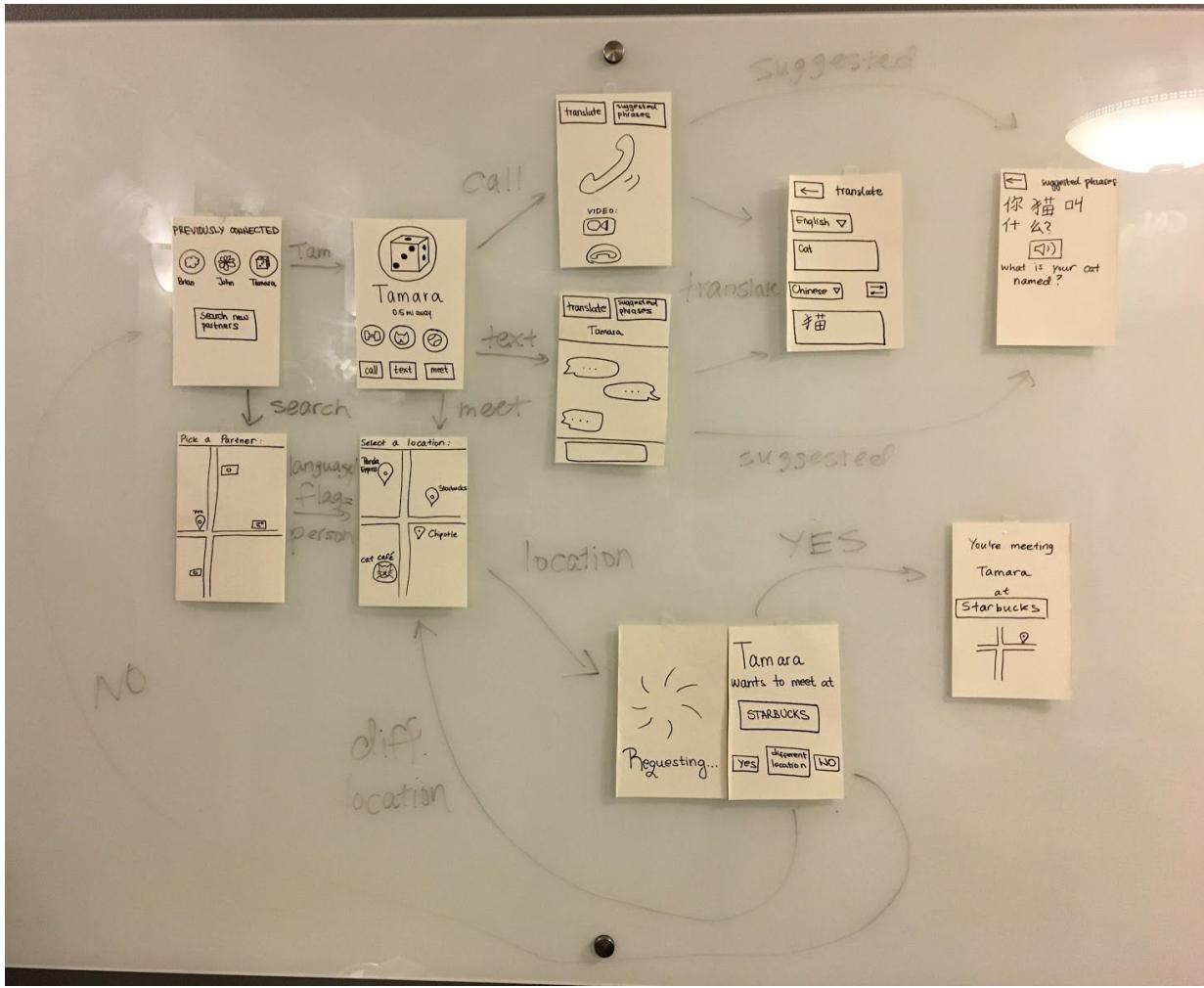


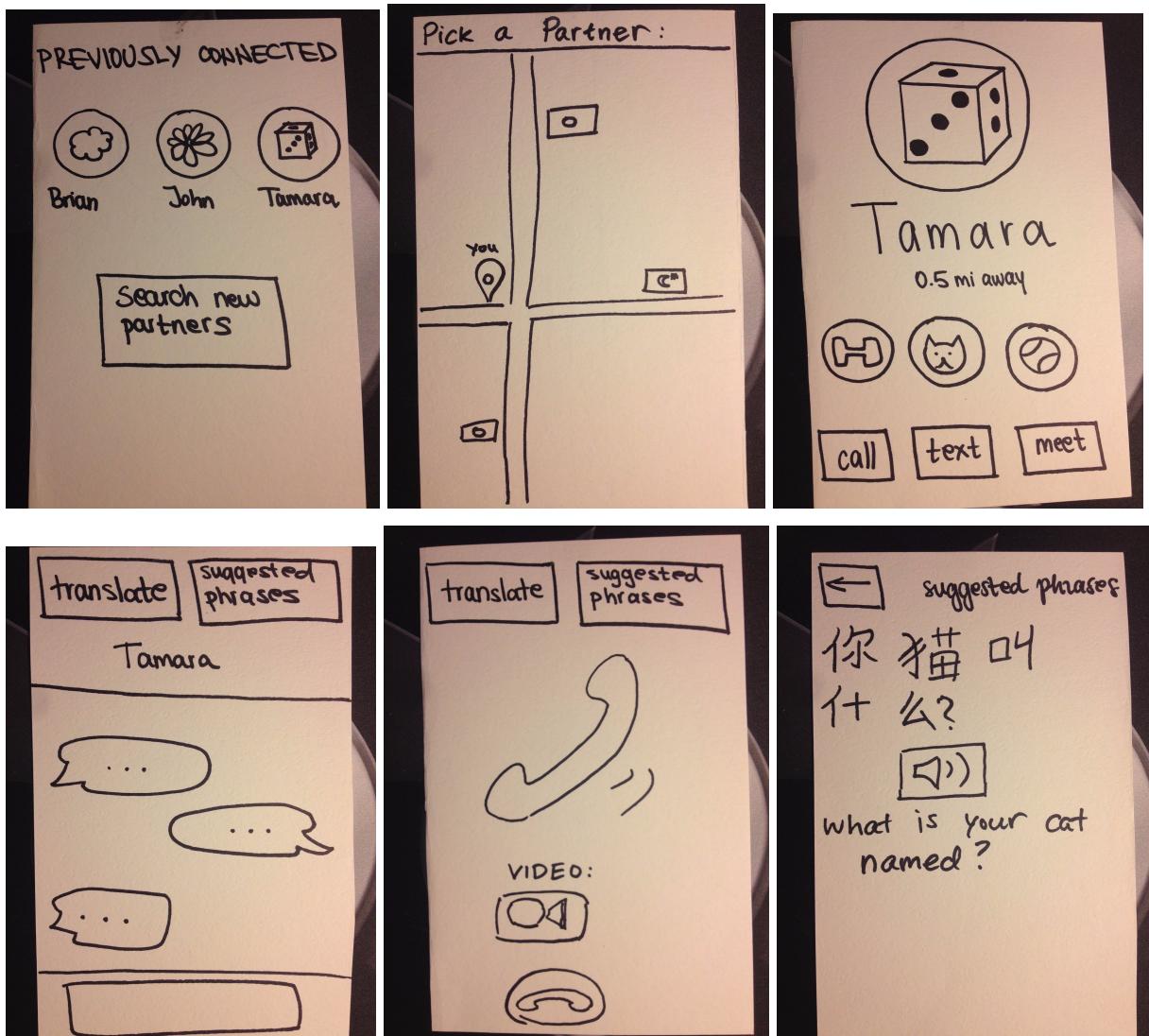
Figure 4a. Low-fi prototype user flow



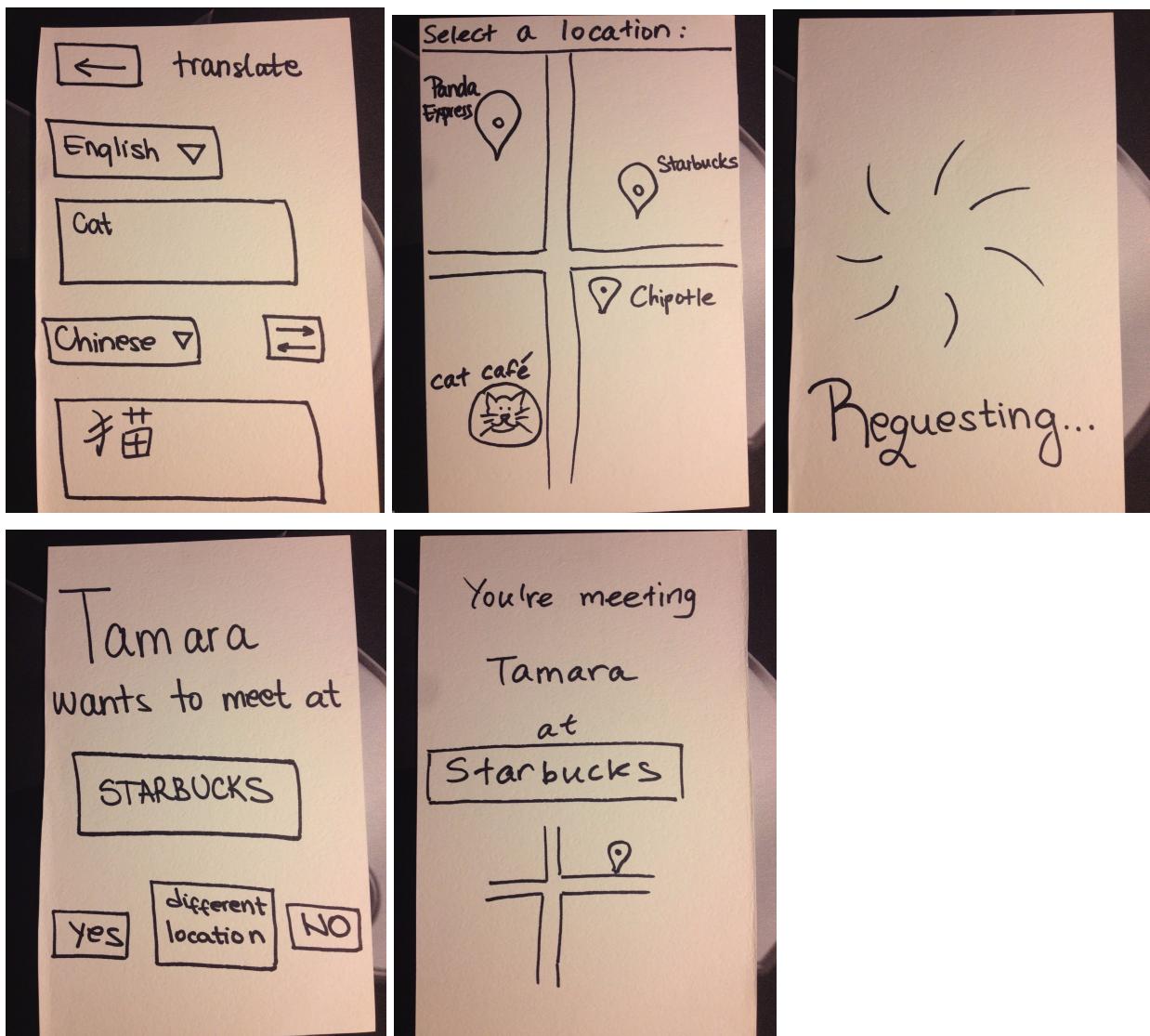
Low-fi prototype

We built a prototype using a separate piece of paper to represent each screen. Figure 4a shows the user flow from screen to screen, and Figures 4b-I show each screen in more detail.

Figures 4b-g. Lo-fi prototype screens

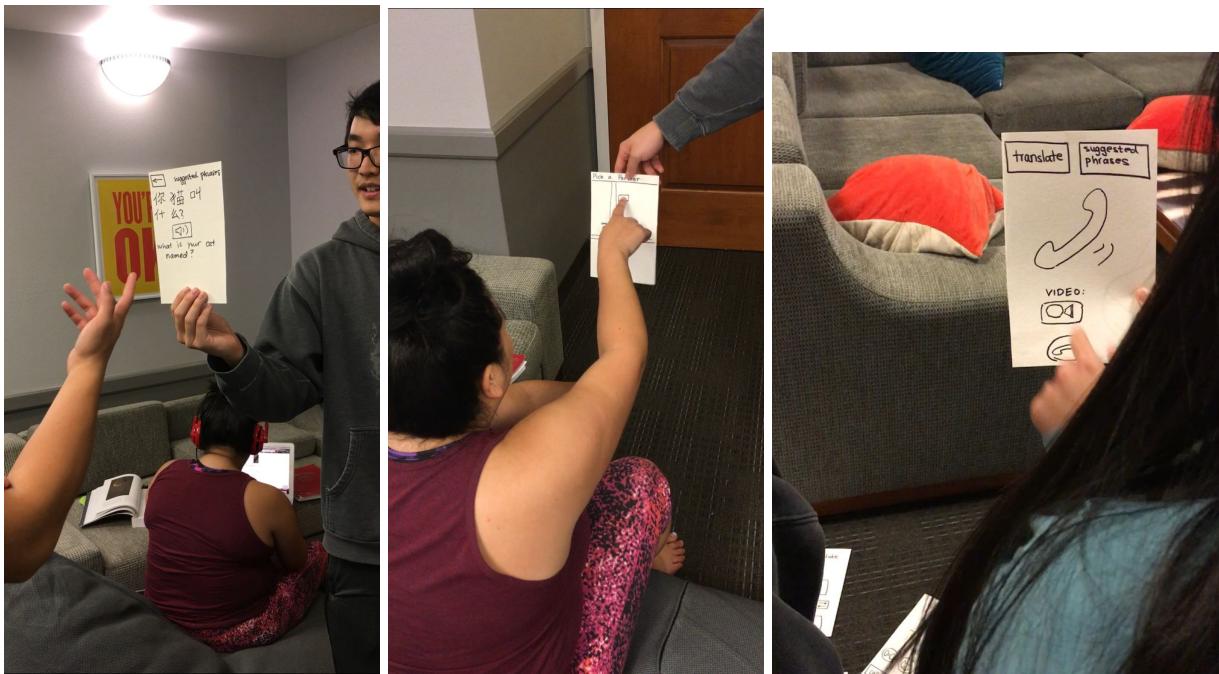


Figures 4h-l. Lo-fi prototype screens



We found 3 participants to test our paper prototype: Albert, Beatrice, and Carla (pseudonyms).

Figures 5a-5c. Albert, Beatrice, and Carla interacting with the prototype held by “computer”



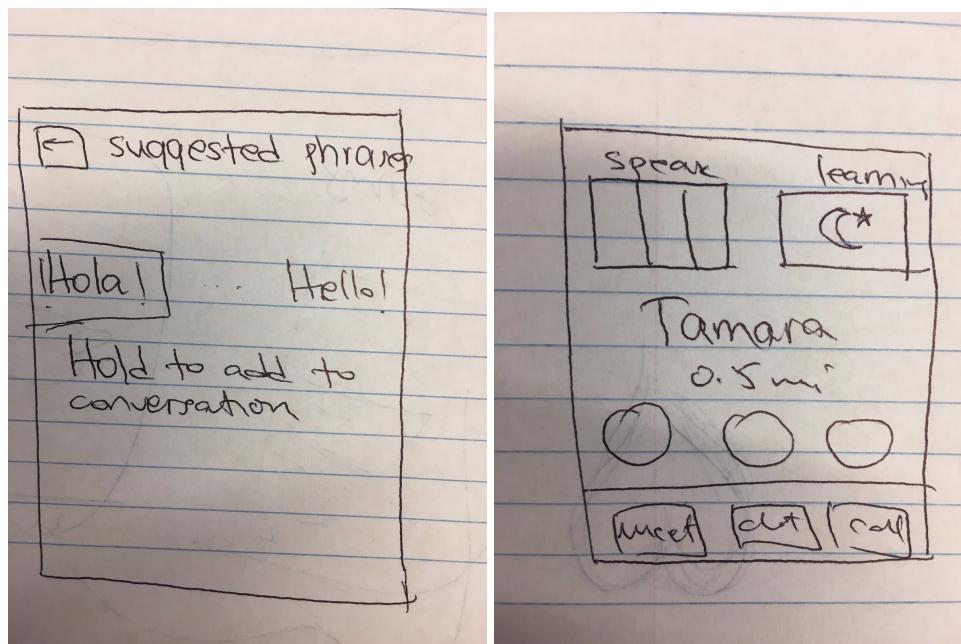
5a: Albert, studying German in preparation for studying abroad at a German university

5b: Beatrice, learned Spanish in the past but not currently learning a language

5c: Carla, speaks Vietnamese at home, took Spanish and French in high school

After participants used the interface and completed the first task, they were able to easily complete the other tasks as instructed. This shows that the basic user flow is intuitive enough to work without needing too much labeling or explanation. However, participants were confused about the pictures representing users' interests and thought they were buttons that could be interacted with. Participants had some ideas for improving the suggested phrases screen. Figure 6a shows a potential redesign for the suggested phrases screen with explicit instructions about how to add the phrase to the conversation.

Figures 6a, 6b. Sketches of potential modifications



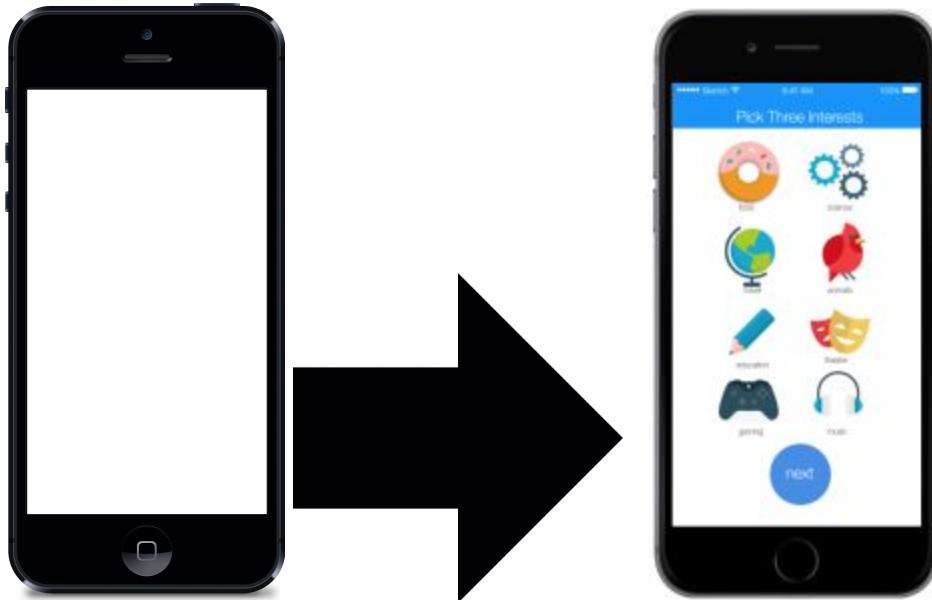
Medium-fi prototype

Change 1: Home screen



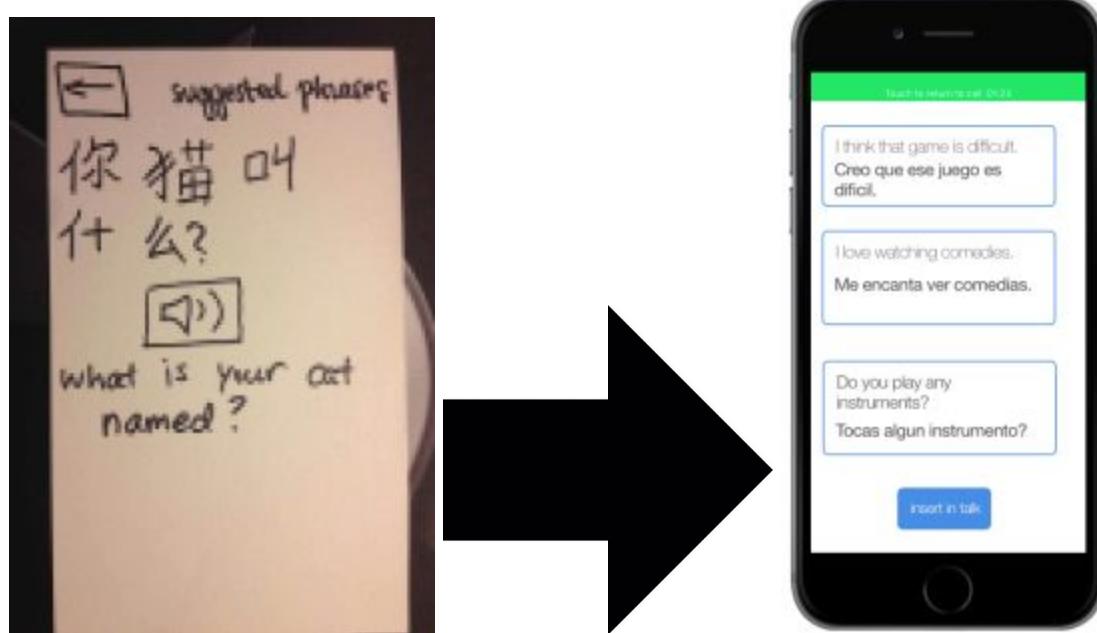
Added a human avatar in order to match with social app standards and appear more friendly. The new interface is clearer, with the shapes of icons no longer being confused for buttons. Information is also equally distributed with no emphasis placed on previous connections in order to make the process more welcoming for new users.

Change 2: Onboarding



We added the onboarding process to the medium-fi prototype. People had been confused about the interest icons and what they represented, so simulating the signup and profile creation process makes it obvious what these icons represent and improves ease of use.

Change 3: Suggested phrases/translation interface



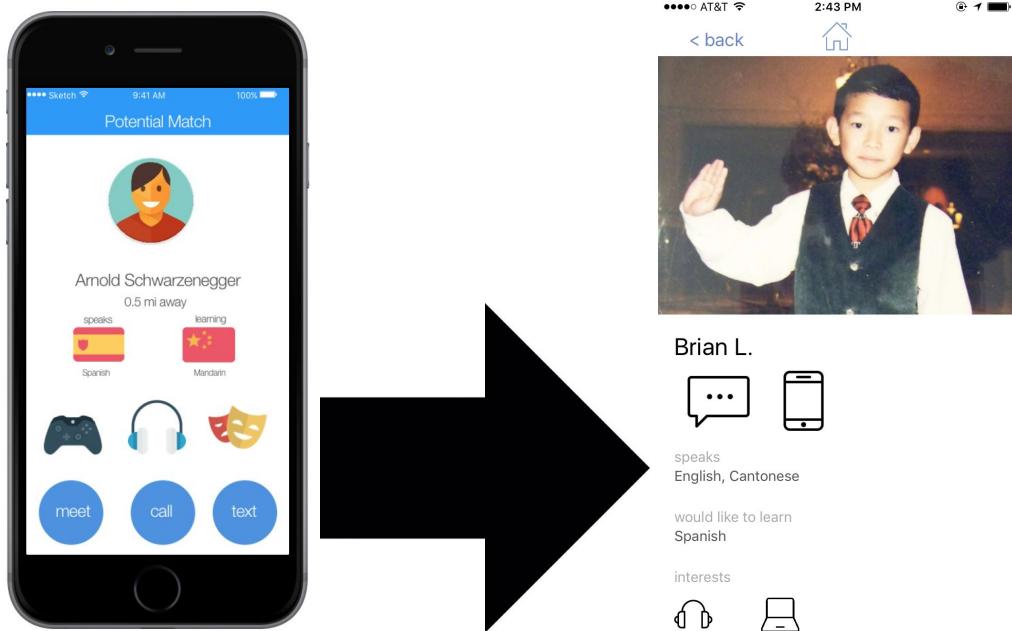
There are now more phrases and they are more specific. The phrases can be easily embedded in a conversation by clicking, instead of being required to copy/paste as before. The phrases change based on what has been previously used, meaning that they are context-specific and not repetitive.

Hi-fi prototype changes covered in next section

Major Usability Problems Addressed

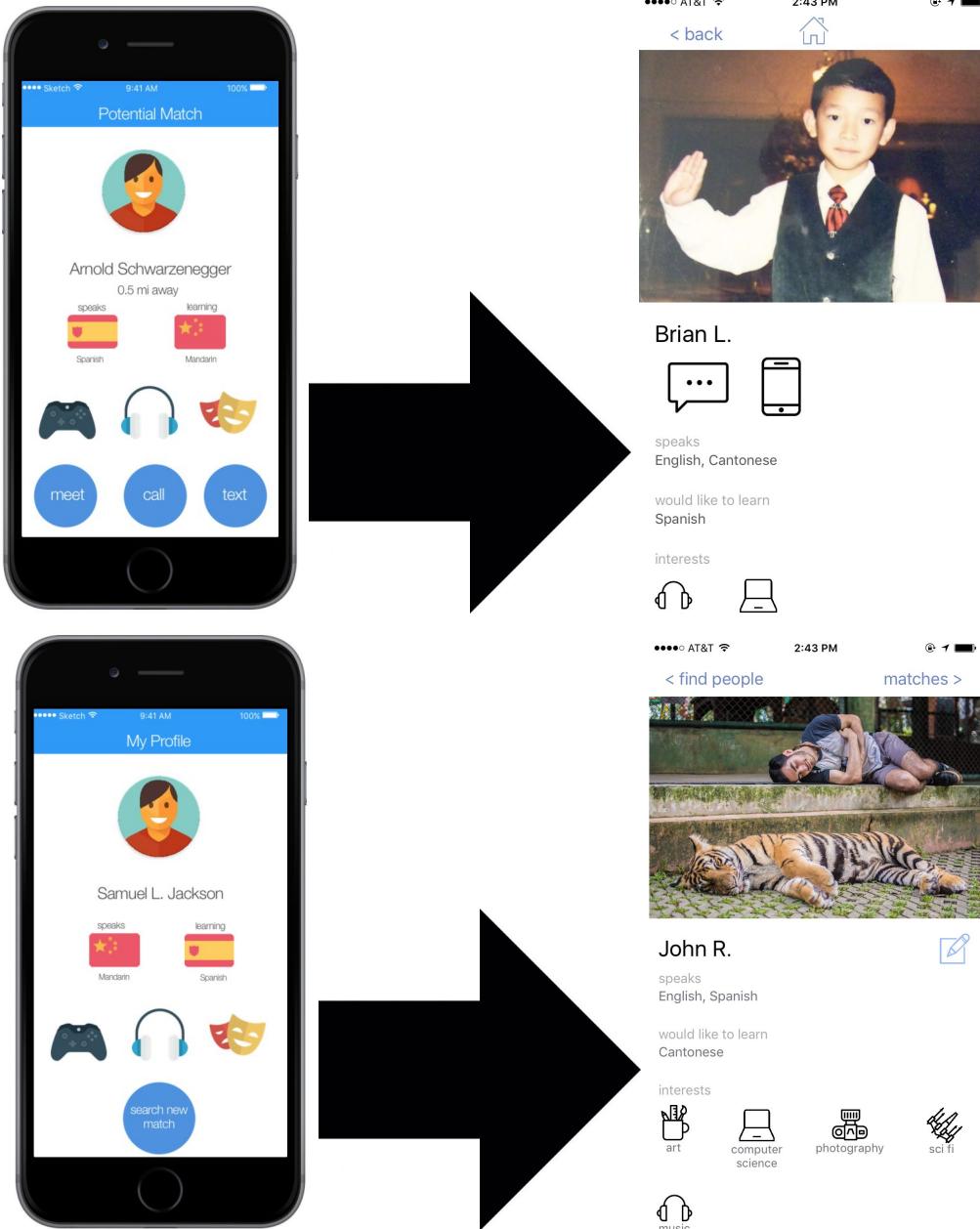
H2-3 User Control and Freedom / Severity: 4 / Very few back buttons where it would be helpful to go to the screen right before. Places where a back button would be needed: after selecting the language you speak/learn, setting up your profile, selecting a potential match (but deciding you'd rather pick someone else)

(only one example shown below, but changed across the whole app)



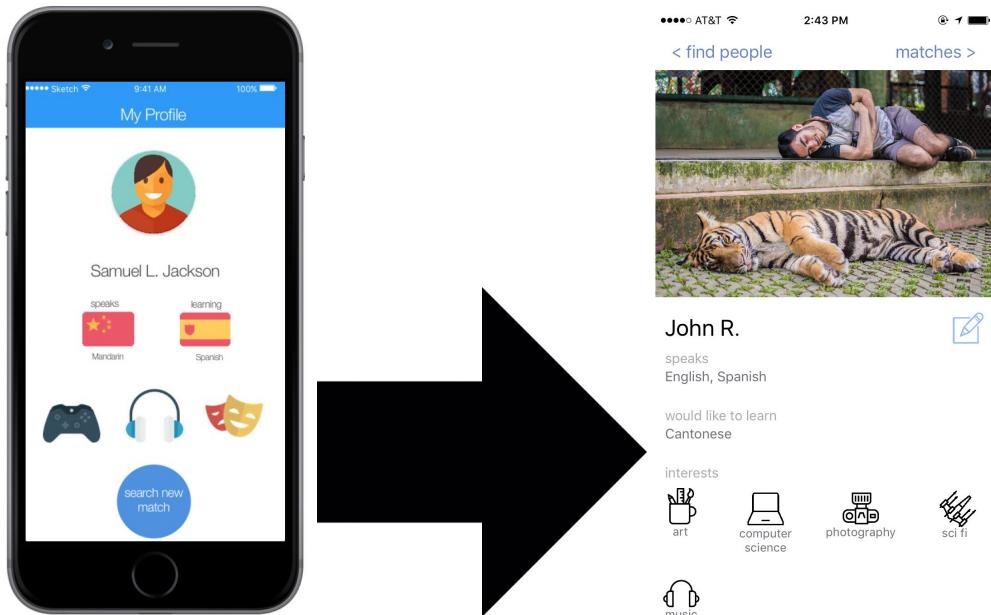
A back button or way to navigate between screens has been added to all screens. This was a simple but important change that significantly improved usability and user flow.

H2-3 User Control and freedom / Severity: 3 / Need ability to navigate between pages (more easily than using back buttons). For example, need a way to go back from potential match page to home page. In general, you should be able to return to the home page from wherever you are in the app.



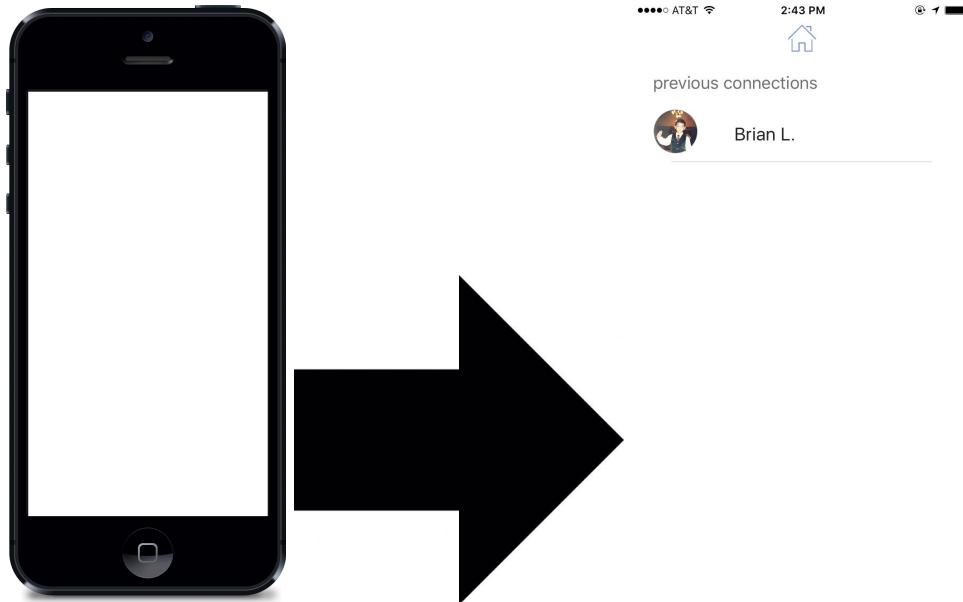
The new design uses the user's own profile as the home screen, and additional navigation links have been added to all screens. All non-home screens allow the user to jump back to the home screen immediately.

H2-3 User Control & Freedom / Severity: 3 / There are no controls on the “my profile” page. The only action you can complete on this page is to search a new match. Either a back screen or, even better, making the current selection displays such as the languages and the interests clickable to modify/edit would be useful.



The “my profile” page now allows users to search for new matches (“find people”) or look at previous matches (“matches”). However, the profile page cannot be edited at this point, as that was not an integral component of the basic functionality of the 3 tasks and we decided to focus on the most important functionality components. Editing a profile page can easily be imagined by test users.

H2-3 User control and freedom / Severity: 3 / From my profile, I should be able to view people I have previously matched with.



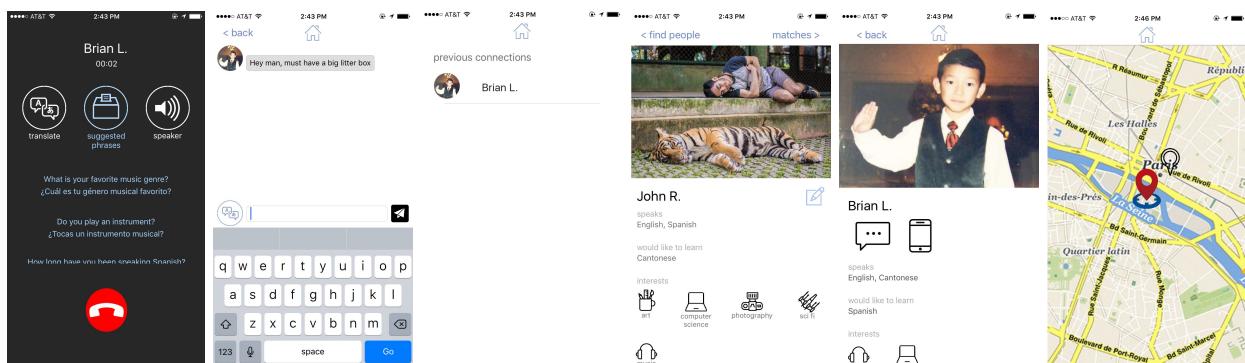
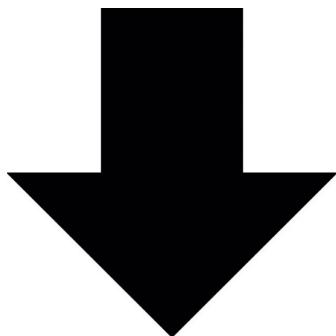
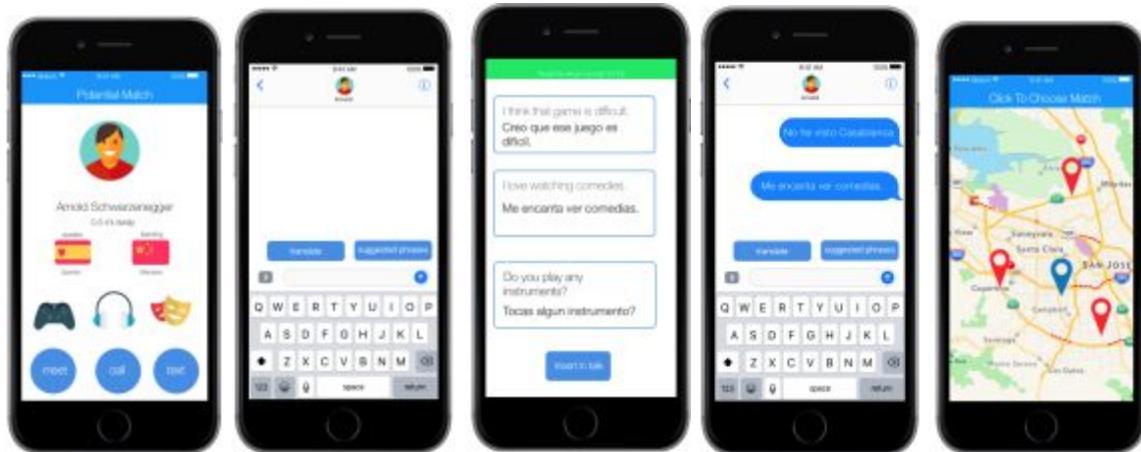
Fixed, users can now see previous connections. This new page is accessible from the home page (user's own profile).

H2-7 Flexibility and efficiency of use / Severity: 3 / In the translation interface, I will want to be able to translate from my target language to my native language in order to understand my language partner (i.e. translate in both directions). Also, I would imagine that one common task flow would in a conversation would be to translate the phrase the other person is saying without having to retype it. Adding that functionality would probably be useful. Also the translate button seems like it would be for this task. Maybe phrase “lookup” would be a better name for this button.



The suggested phrases screen has been changed to fit the updated aesthetic (minimalist profile, fewer colors). However, it uses a Wizard of Oz simulated functionality and does not actually generate phrases dynamically. We were unable to implement the full functionality because of scope reasons and because it would require significant back-end coding, which was not required for this prototype.

Other changes: The aesthetic has been updated. The medium-fi prototype gave off a bit of a childish feel because of the color profile, and the hi-fi prototype uses a minimalist greyscale color profile that connotes maturity, integrity, and professionalism. The new prototype also follows industry standards for user flow and spatial awareness of transitions.



Prototype Implementation

Tools: Xcode 8.1, Swift 3

Easy to put together the aesthetics, difficult to collaborate because the storyboard does not work well with version control.

Wizard of Oz techniques: The interactions through phone call, texting and finding people on the map used Wizard of Oz techniques because actually implementing them would have required significant back-end implementation that was beyond the scope of the course.

Hard-coded data: Profile information, suggested phrases, map. Not essential at this stage to create additional profiles beyond the two required to show the basic functionality.

Significant missing components: User base and signup screen. If we had more time, would implement searching of previous connections and organization of contacts into groups for easier functionality.

Summary

Our app evolved considerably throughout this quarter. Despite the short amount of time, we feel that we were able to target a specific need for users and develop something that could be beneficial for them. The app is not fully functional at the moment but could be made functional with additional time. Having gone through the entire product development cycle from start to finish, we feel that we have acquired useful skills that could be applied to future projects as well.