ThoughtBubble

Low-fi Prototyping & Pilot Usability Testing
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Introduction

Value Proposition: Get help talking about the tough questions. Expand your bubble.

Problem/Solution Overview:

People often find it difficult have conversations about identity or personal experience. For the most part, they fear not knowing how to ask these questions in a sensitive manner, or worry about offending and indirectly hurting others.

We propose a solution that helps people to be forthcoming about identities and experiences they're willing to share, guide their friends in framing tough questions, and facilitate a larger conversation across multiple identities.

Sketches

Initial Sketches

Figure 1. Concept sketch, revising and reacting to questions. Mobile.
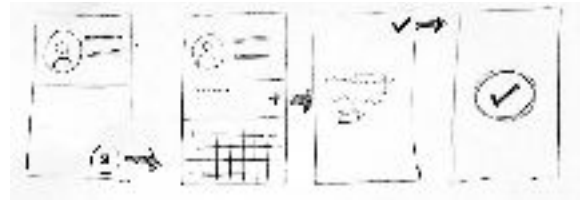

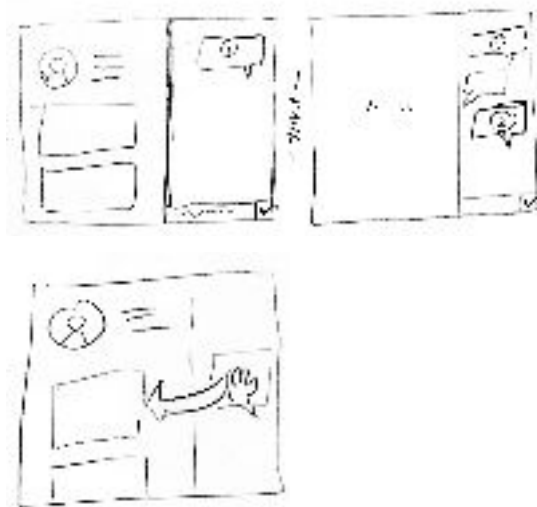Figure 2. Concept sketch, asking questions. Mobile.

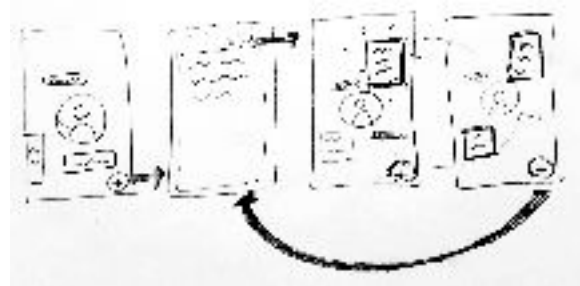Figure 3. Concept sketch, asking and reframing questions over time. Web.

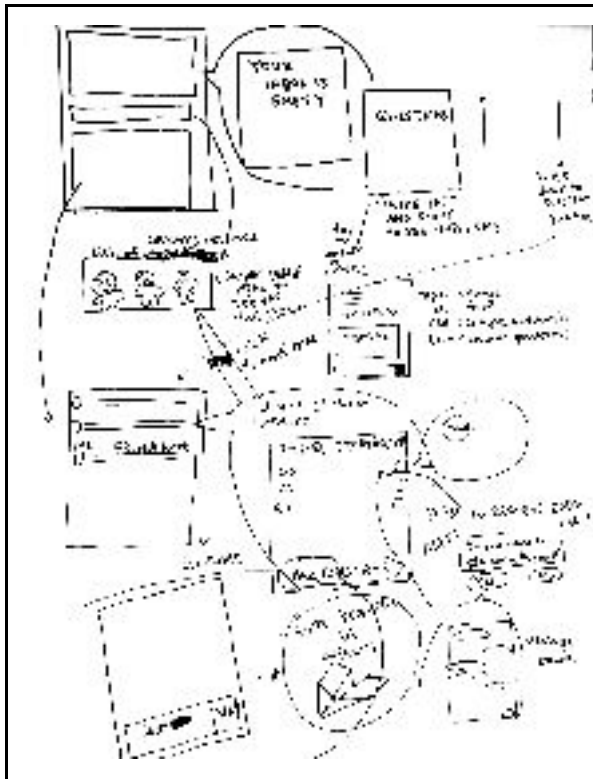Figure 4. Concept sketch, asking questions. Mobile.

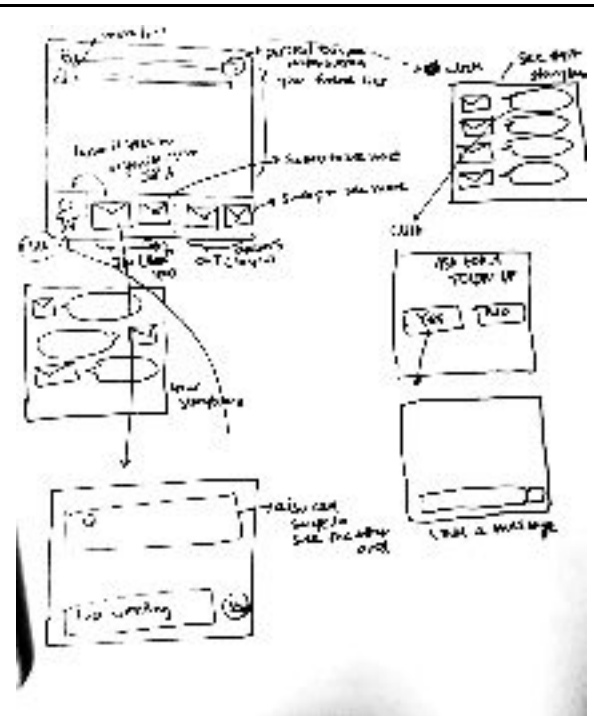Figure 5. Concept sketch, asking, revising, and answering questions. Mobile.

Figure 6. Concept sketch, asking, revising, and answering questions. Tablet.
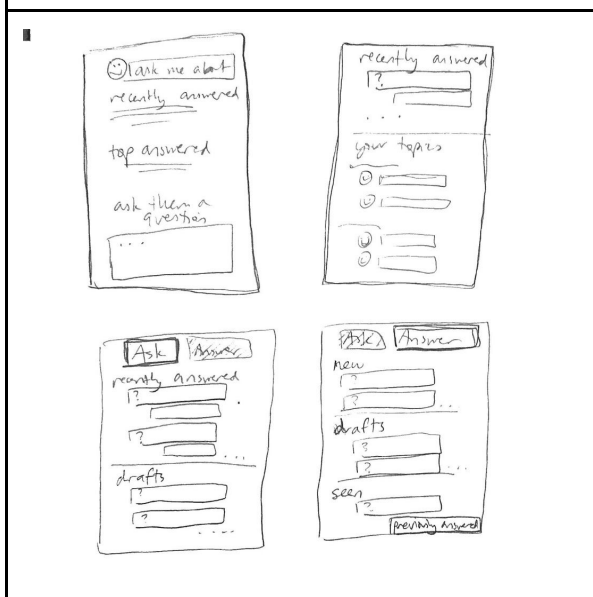
Figure 7. Concept sketch, asking and answering questions. Mobile.
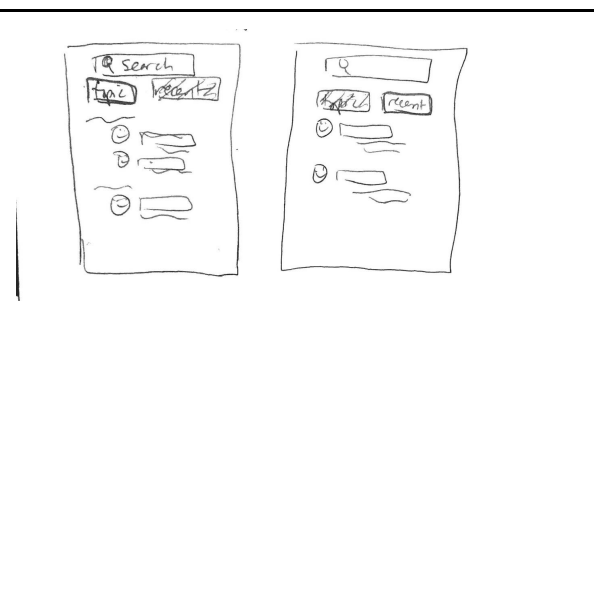
Figure 8. Concept sketch, learning to correctly reframe questions. Mobile.

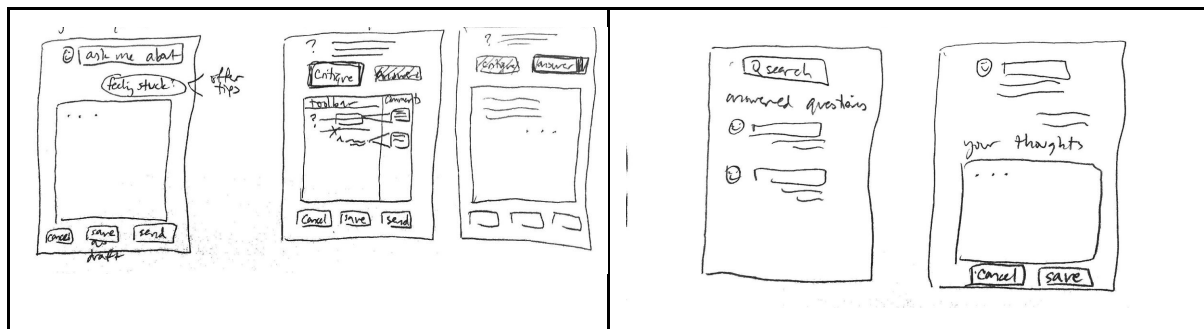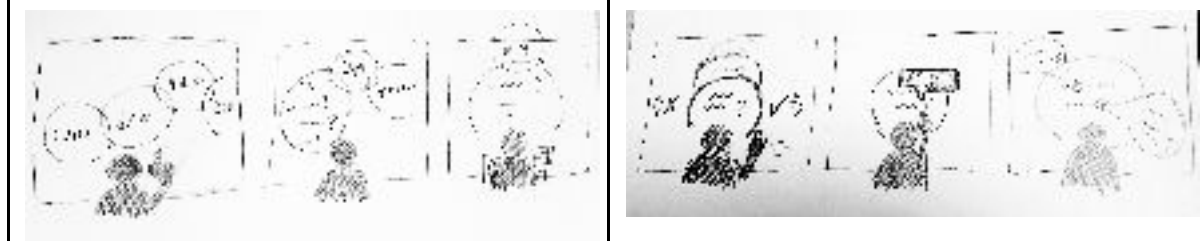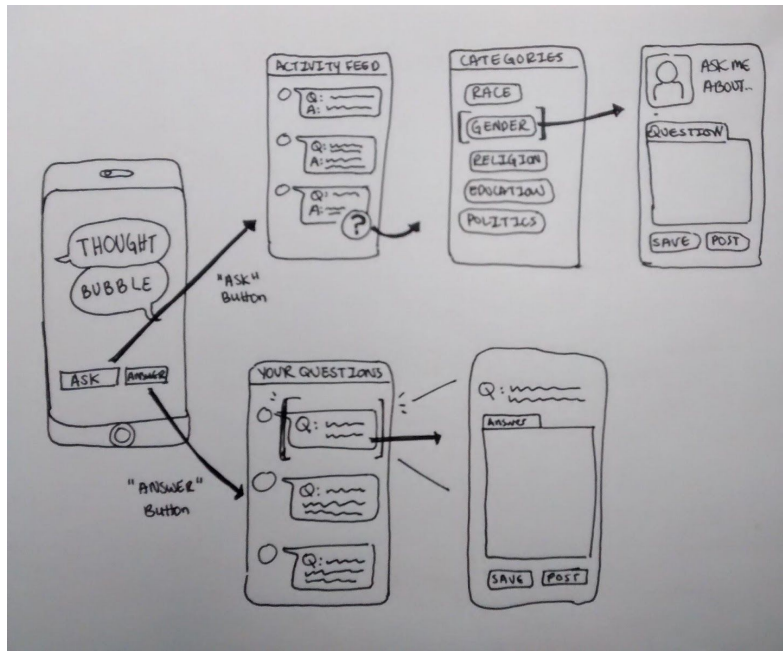|	
Figure 9. Concept sketch, asking and answering questions. Mobile.	Figure 10. Concept sketch, reframing questions and answers. Mobile.
Figure 11. Concept sketch, asking questions. Virtual reality.	Figure 12. Concept sketch, reframing questions. Virtual reality.

Top Two (Expanded) Realizations:

Figure 13. Mobile realization.
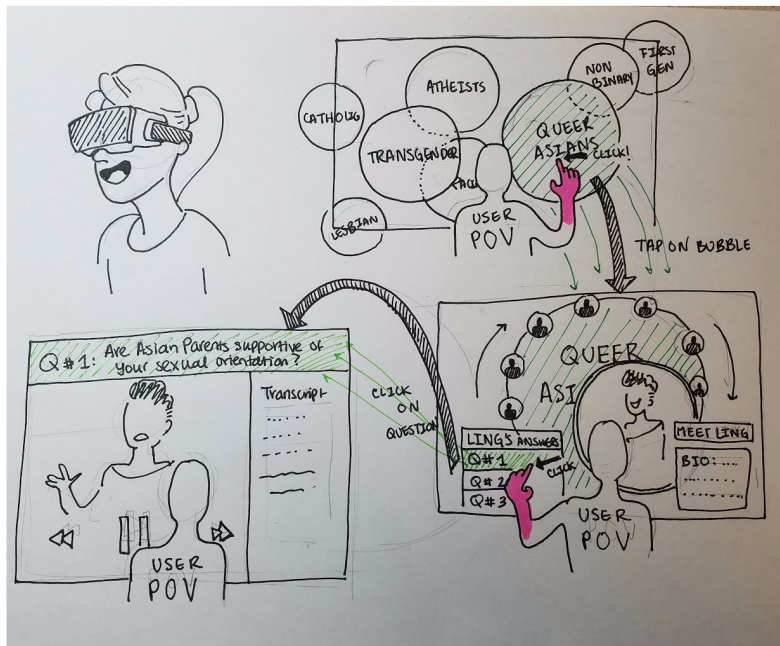

Figure 14. Virtual reality realization.

Selected Interface Design

We were most excited how the Android mobile application and virtual reality ideas provided two very different ways of asking personal questions and presenting meaningful narratives in an effective and impactful way.

Realization 1: Mobile

- Pros
    - Familiar interface; build off of user's experiences with social networking/messaging mobile applications.
    - Uses authorization and imports friend circles via Facebook, which establishes trust and prompts deeper connections among existing friends.
    - Accessible mobile medium disrupts the notion that serious and meaningful conversations must exist in non-casual settings.
- Cons
    - Similarities to other social media and messaging mobile applications an obstacle to differentiating ourselves from the market.
    - Requires many interactions and screens to accomplish a single task.
    - Might seem 'forum like' since primary communication is through text

Realization 2: Virtual reality

- Pros
    - Immersive video experience of other people talking about their experience can be more impactful and conducive to empathy
    - Transposes implicit information about social circles, social identity groups, and personal identities and experiences into explicit visualizations.
- Cons
    - Immersive experience requires more effort and intentionality in setting aside dedicated time to engage.
    - Technology is not as accessible as mobile phones, so the interactions fostered might be more one-time deals than ongoing conversations

We ultimately decided to progress with our mobile design (Figure 13) because we wanted our users to incorporate our proposed form of communication into their regular routine and normal devices, rather than consider it a marked one- or two-time immersive experience. Our past interviews revealed that standard *means of conversation* already exist, but users struggle with turning those day-to-day conversations into more meaningful ones.

We want to stay true to those means, but transform the flow and content of conversation. Through this mobile design, we hope to make asking tough questions and expanding existing social bubbles to incorporate more meaningful dialogue, translate as easily and seamlessly as possible into text-based messaging and face-to-face conversations. This way, the question-forming and discussion techniques learned through our application can be carried with the user.

Storyboard

Task 1: Ask an anonymous question
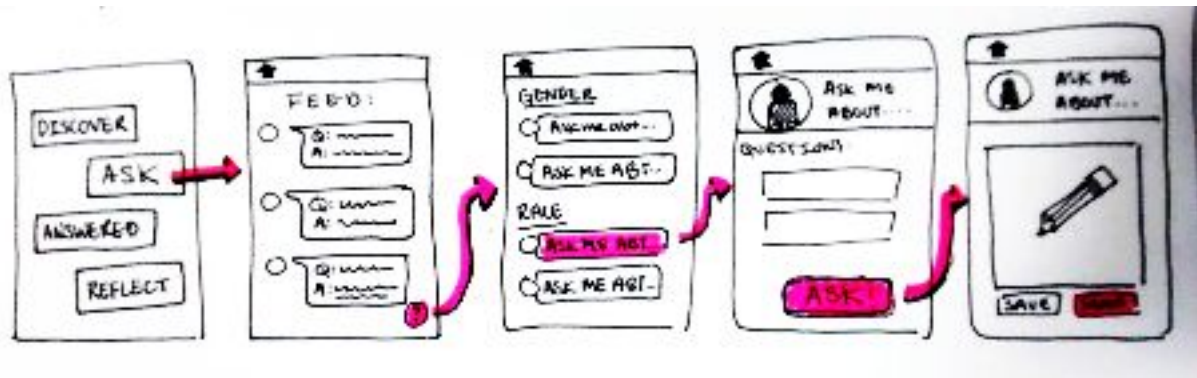
Task 2: Answer a question you were asked
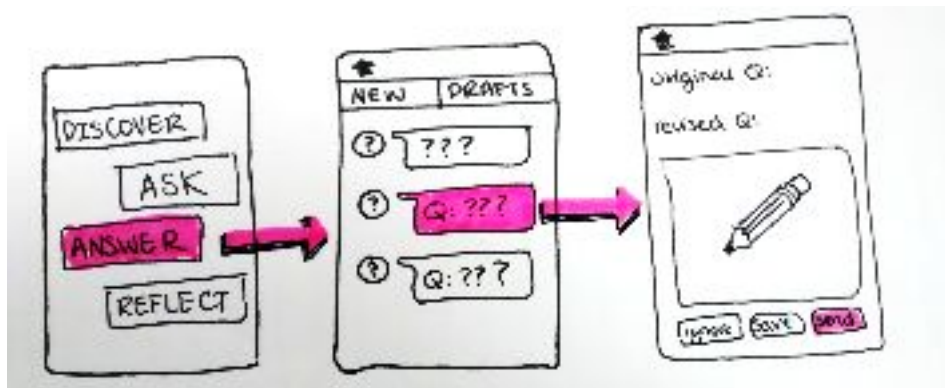
Task 3: Reflect upon something new that you learned
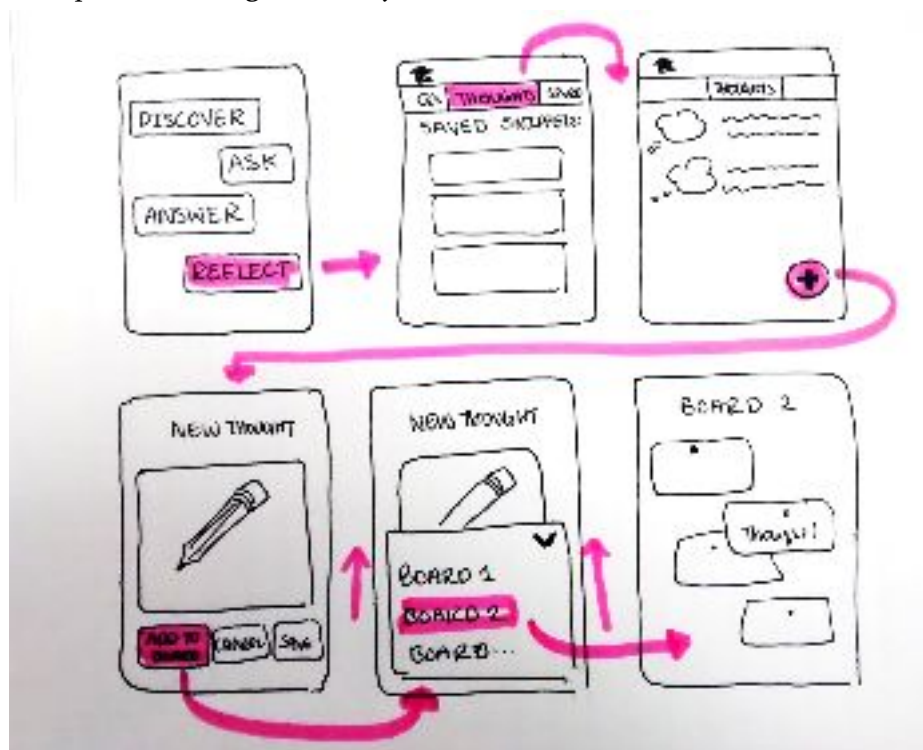
Prototype

Prototype Description & images of all screens used in tasks and a picture of the entire system(½ page)
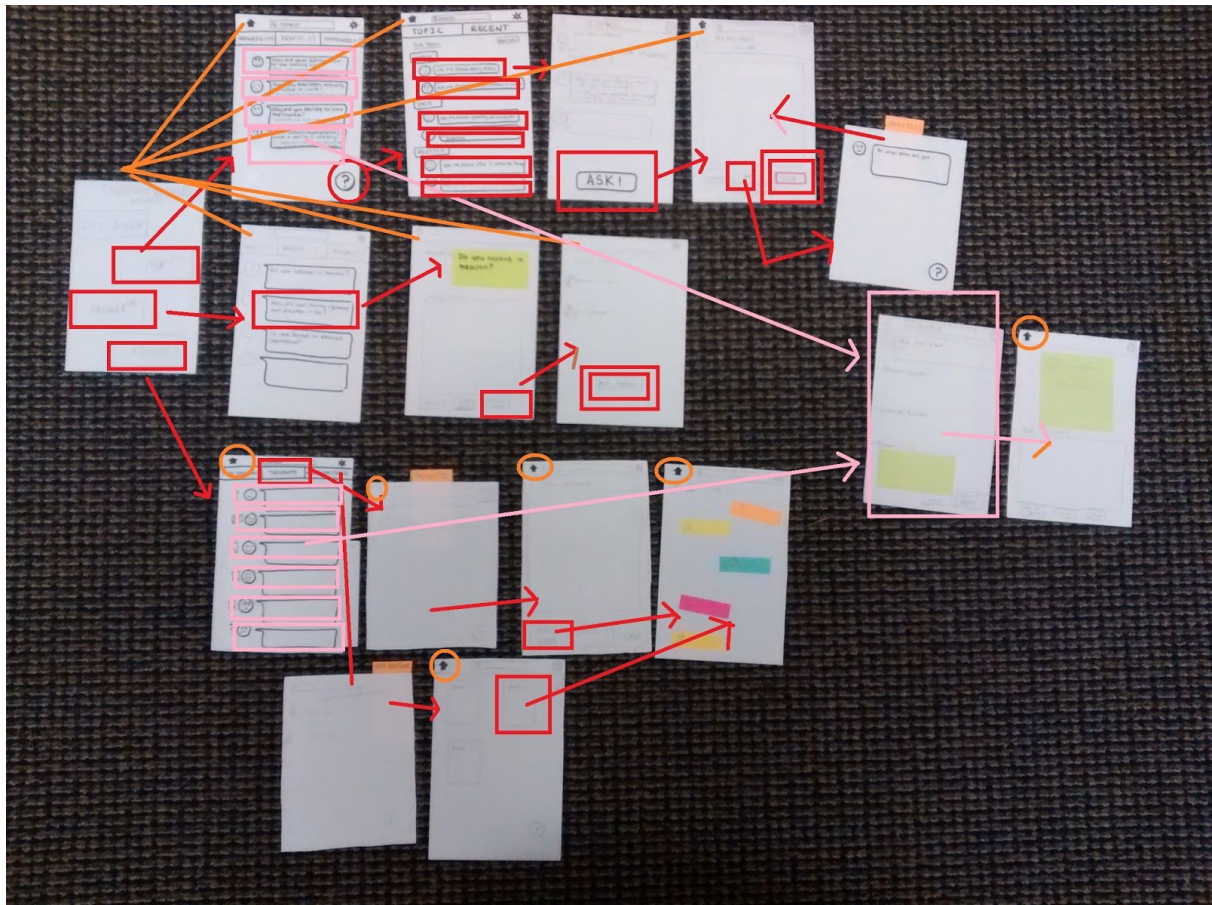
Method

Environment:
      Our experiment took place at a plaza in downtown Palo Alto (by Pizza My Heart) and Tressider Student Union. Both these locations have a lot of people passing through and are places where people tend to sit down to rest.

Participants:
      We recruited by going up to people sitting by themselves and by posting a sign that advertised our study. To attract people to our study and provide compensation, each participant received a $5 Starbucks gift card. The range of participants we attracted were diverse in terms of age, gender, race, and occupation. Participant 1 was an Indian woman in her early thirties working as a lawyer. Participant 2 was a middle aged African American man currently unemployed. Participant 3 was an Asian-American man in his early twenties studying Computer Science.

Team Member Roles:

For the first two rounds of testing, Grace acted as facilitator, Bonnie as computer, and Po and Jenny took notes. For the third round of testing, Jenny acted as facilitator, Po as computer and Grace took notes.

Procedure:

After welcoming the participant, we explained the purpose of our app and the experiment. Then, we would ask them to perform three different tasks by interacting with a prototype of our app built using paper. As the user interacted with the prototype, the 'computer' would swap out different screens, add places to write, and place pop ups. Occasionally, the facilitator would remind them of the task they were trying to accomplish, or offer more information about the contents of page.

Tasks:

Participants were presented with three different tasks in the following order:
1. Frequent Task: Ask a person a question
2. Frequent Task: Answer a question that you were asked
3. Complex Task: Reflect upon something new that you learned

Test Measures:

In order to identify problem areas, we looked at the amount of time it took for a participant to complete a task, the number of tries it took, and subjective expressions of discomfort, confusion or frustration. We also looked at what areas/buttons/fields the participants were drawn to in order to accomplish different goals, in hopes that this could show us how to make the passed-over 'correct' buttons be the first choice instead.

Results

Participant 1:

Participant 1 was a woman in her early thirties. It took her roughly the same amount of tries and time (2-3 minutes) to answer and ask a question. The most significant challenge was actually navigating to the ask page (went outside the intended path) and back to the homepage--she eventually resorted to using the back button multiple times to return to home. As feedback, Participant 1 suggested having some form of flagging or reporting questions, since online anonymity can foster problematic interactions

Participant 2:

Participant 2 was a man in his late forties. Participant 2 navigated to the ask questions page using the intended button, although it also took him several tries. Participant 1 struggled with navigating back to the home page in order to answer a question. Like Participant 1, Participant 2 also was able to navigate to, and answer questions with relative ease.

Participant 3:

Participant 3 was a man in his early twenties. Like the other participants, it took him a long time to figure out how to ask a question, and he arrived at it by navigating outside of the intended path. He was able to answer questions easily, but was confused when a button he thought would submit his answer took him to a drafts page. He also had a lot of difficulty adding a reflection, as he was distracted by the main content of the reflection page. He suggested having the buttons on the homepage be present throughout the entire app as a toolbar for easier navigation.

Discussion

Overall, this round of prototype testing revealed a lot of important obstacles that we had overlooked in our initial design, and helped define our direction going forward. The majority of the obstacles that the users encountered were primarily with app navigation. Once they were on the correct page for the task, they were able to execute it with relative ease, however arriving at these pages took considerable time and effort. We anticipate revising our prototype to simplify the number of pages that users have to navigate through in order to reach the actionable pages, as well as streamlining the functionality of the app so that the path to accomplish the core tasks associated with the app is clearer.

One thing that was especially interesting to note was that we had a number of solutions to navigation issues (such as a home button to navigate back to the home page, and a question button to ask questions immediately) that were completely overlooked. We think that these buttons could solve a lot of the navigation issues that we encountered, but based on the way that they were not identified, we anticipate having to place them in a more prominent location and simplifying the surrounding content so that they are more obvious.

Another interesting thing to notice was that users were not interested in critiquing the questions that they were given, which was another major aspect of our app's functionality. This may have been in part because they were too focused on accomplishing the other tasks at hand, or because of the inherent artificial nature of the sample answers we provided for the prototype test, but it could also indicate that this is a level of functionality that not a lot of users would engage with.

Finally, we wanted to pay especial attention to Participant 1's note about some way of addressing the issues of anonymity and safety. Going forward, we will have to work some system of flagging, reporting, or ignoring questions that users find disturbing.

Word count: 1433 words

Appendices:

Consent Form Template:

Consent Form

The **ThoughtBubble** application is being produced as part of the coursework for Computer Science course CS 147 at Stanford University. Participants in experimental evaluation of the application provide data that is used to evaluate and modify the interface of **ThoughtBubble**. Data will be collected by interview, observation and questionnaire.

Participation in this experiment is voluntary. Participants may withdraw themselves and their data at any time without fear of consequences. Concerns about the experiment may be discussed with the researchers (**Grace Hong, Jenny Kim, Bonnie Nortz, Po Tsui**) or with Professor James Landay, the instructor of CS 147:

James A. Landay
CS Department
Stanford University
650-498-8215
landay at cs.stanford.edu

Participant anonymity will be provided by the separate storage of names from data. Data will only be identified by participant number. No identifying information about the participants will be available to anyone except the student researchers and their supervisors/teaching staff.

I hereby acknowledge that I have been given an opportunity to ask questions about the nature of the experiment and my participation in it. I give my consent to have data collected on my behavior and opinions in relation to the **ThoughtBubble** experiment. I also give permission for images/video of me using the application to be used in presentations or publications as long as I am not personally identifiable in the images/video. I understand I may withdraw my permission at any time

Name _____

Participant Number _____

Date _____

Signature_____

Witness name _____

Witness signature_____

Raw Data:

"Tries" represents the number of different times the participant navigated to a certain place in order to accomplish a task and then decided to backtrack to try again

"Time" represents the time from when the participant started from the home page, to when they accomplished the task they set out to do.

	Ask		Answer		Reflect	
	Tries	Time	Tries	Time	Tries	Time
Participant 1	2	2:50	2	2:49	2	1:14
Participant 2	2	6:31	1	1:42	2	3:28
Participant 3	4	2:25	2	4:05	2	2:10