P4: Conceptual User Study
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Measures for Study

Survey Questions
1) Did you feel stuck or confused at any point?
2) What improvements do you want to see in the product?
3) Do you find this product useful?
4) Were you comfortable discussing controversial issues with complete strangers in the group chat?

Qualitative Measures (observations)
1) Intuition about what is going on-any stuck points
2) How do they figure out what to do next? Are we adding the proper signifiers throughout the product?
3) Did the user make any comments suggesting something was annoying or repetitive?
4) Did the user get frustrated?

Quantitative Measures
1) Time it takes to complete (is task completed on time?)
2) Number of wrong clicks
3) Number of long pauses (over 10 seconds)
4) Number of positive commentaries & number of negative commentaries while using the UI (positive commentaries % over total number of commentaries)

Study Procedure
1. Focus on measuring utility and ease of use. We want the product to be self-evident in it's ability to burst echo chambers, as well as enable the user to traverse through the product unguided.
2. 2 people conduct the user study (as defined by walking through the lo-fi prototype event sequence for P2 prototype), while 1 person measures qualitative performance and 1 person measures quantitative performance based on measures defined above. We ask survey questions at the end.
3. Repeat steps 1 & 2 again for P3 (dark horse) prototype with another group.
4. Analyze user data collected.

Data Collected in Studio
P2 Prototype Study
Qualitative Measures
1) Intuition about what is going on-any stuck points
    a) At critical stuck points, intuition didn't really help the user navigate to the next section. Specifically they got very stuck after the sign/signup process. A key problem I noticed that the user was frustrated with is that it wasn't clear that our product was an overlay for an existing chat platform.

2) **How do they figure out what to do next? Are we adding the proper signifiers throughout the product?**
   a) We had to tell to them what do at specific pauses. The user seem to get frustrated and not understand the leap between sign up and chat. Furthermore, within the fb chat with a friend, they were unable to intuitively figure out which commands to tell the FB bot
3) **Did the user make any comments suggesting something was annoying or repetitive?**
   a) They disliked the sign-up flow and lack of clarity around fb bot commands
4) **Did the user get frustrated?**
   a) The user experienced frustration when there weren't enough directions on what to do
5) **Other Observations**
   a) The study didn't go smoothly because we had too many moving parts

Survey Questions
1) **Did you feel stuck or confused at any point?**
   a) Yes, during login and initial opening of the chat
2) **What improvements do you want to see in the product?**
   a) Login page was difficult and cluttered to understand
3) **Do you find this product useful?**
   a) Definitely find the product intriguing, it reminds them of slack
4) **Were you comfortable discussing controversial issues with complete strangers in the group chat?**
   a) They were comfortable because they had a friend in the chat with them

Quantitative Measures
1. **Time to Complete** (navigating through the entire UI): 2 min 14 sec
2. **# Wrong Clicks:** None
3. **# Long Pauses (over 10 sec.):** 1 long pause: User was confused about the chat box that had the word "/chatwithme/". They didn't know what to expect
4. **Positive Comments (50%):**
   -Users would use this feature more often
   -Users liked how they could converse with others about this topic, other than just their friends, and in the process could gain a different perspective
5. **Negative Comments(50%):**
   -The profile home page was too cluttered. There were too many questions that the user had to fill out
   -It was confusing that the user who launched the /chatwithme/ command on the chat bot pop-up did not themselves receive a notification to join the group chat (unlike Mary and Justin) who received the chat notifications of "yes", "no", and "decline".

P3 Prototype Study
Survey Questions
  1) **Did you feel stuck or confused at any point?**
      b) Felt stuck after login
  2) **What improvements do you want to see in the product?**
      c) Do not like how aggressive the product is. It's too uncomfortable to have to try to debate
  3) **Do you find this product useful?**
      d) Product is too combative to frequently use. They don't like the idea of "publicly" shaming other people. They dislike the idea of winning or losing when it comes to educational discussion
  4) **Were you comfortable discussing controversial issues with complete strangers in the group chat?**
      e) If they lost one of two of these debates, they wouldn't do it again, and definitely wouldn't do it with a friend. They don't trust strangers.

Qualitative Measures
  1) **Good intuition about what is going on-any stuck points**
      a) Not really, it's not very intuitive
  2) **How do they figure out what to do next? Are we adding the proper signifiers throughout the product?**
      a) No idea what to do with the FB Bot and chrome plugin, it's not very explained - commands are hidden for FB Bot
  3) **Did the user make any comments suggesting something was annoying or repetitive?**
      a) "Even though I started the debate, I have to join it myself" which is unintuitive.
  4) **Did the user get frustrated?**
      a) User isn't sure what to do after clicking the download link in the setup page.

Quantitative Measures
  1. **Time to Complete (navigating through the entire UI):** 6 min 26 sec
  2. **# Wrong Clicks:** 3
     -User was confused about the auto-saving mechanism that was used when updating the user profile page. They tried to change their preferences but were unable explicitly find the button that said "update" or "save".
     -Based on the dialogue in the chat pop-up box, user was under the impression that they were part of the "CON" side for the question: Are the warriors better than the lakers? So they pressed the "CON" button, instead of the "PRO" button. Fix: The dialogue in the chat pop-up window should be consistent with the side the user joins when the enter the virtual debate room
     -The user was confused about the page that showed all of the debators (who have already joined the chat room). They thought that they had to choose which number

debator they got to be. So, they were confused when their turn automatically came up to speak.

3. **# Long Pauses (over 10 sec.):** 1 long pause: User was confused about the chat box that had the word "/debate/". They didn't know what to expect, since they probably had not used a chat bot before

4. **Positive Comments(50%):**
-Liked the fact that there was an option to leave the debate at any time
-Liked the fact that we are bringing complete strangers into the debate room (as opposed to friends), since the user felt more comfortable debating against a stranger than a friend and prefers to express their biases to a stranger rather than to a friend

5. **Negative Comments(50%):**
-Was confused about how to get back to the home screen and profile page
-User would be less motivated to continue using the app if they lost too many debates (thus had very few points).

Reflection

Reflecting on the Use Study Process:

What worked well is that our group was able to successfully run through our entire P2 and P3 prototypes within the time limit of 10 min., and we were able to gather information for all our measures. The transition from testing our prototypes from one group to another was also well organized since we clearly knew by assignment which group(s) we were assigned to. We practiced transitions before hand and each person knew their job. Procedurally, our user study process went smoothly.

However, we did at some point feel slightly time pressured being able to get all the data needed for our study. What could have been improved was if we had the opportunity to test our prototypes with more users (at least 2 cycles for each prototype instead of one cycle), since we received conflicting opinions for the same issue from two different users and want to gather more user opinion data on this issue. Specifically, we will also have to conduct further user studies to determine whether or not to show notifications prompting users to join the chat or debate room if they were the ones who launched the chat or debate, since we observed mixed reactions/feedback on this issue. Another issue we had with our specific product was there were far too many moving parts. Our product was an asymmetric debate chat, and users that initiated the chat would have different experiences than users that were pulled into the chat. We tried to show all perspectives, but the process became unwieldy by having to tell the same person "Ok, now pretend like you're this type of user". In the future, we should have a much more linear path in order to test very specific measures.

Having more time for debriefing and feedback from the user would have been helpful (~30 min) and this would have allowed us to more poke further questions to the user to more deeply understand their thought process when interacting with our prototypes. We would also be able

to ask more survey questions if given additional time. Additionally, having a bigger table to lay out all of our prototype storyboards would have been helpful. Also, getting users from other demographics (ie. young, old, middle-aged, avid technology user, not avid technology user etc) would have provided more insights than just UC Berkeley College of Engineering or CS declared students.

Other Key Observations/Insights:
In our study, we wanted to see how users would react to a facebook bot that allowed users to engage in conversations with other users with different viewpoints. Once a user initiated the "chat with me" bot, a pop up window will appear on the user's screen. This will begin a conversation between the user, the user they initiated the "chat" with, and two random users who also have a Chat with Me account. Both of these users are on opposing sides as well. Our rationale behind bringing four people into the chat conversation is to enable all perspectives on the topic to be represented will creating a comfortable environment for users to freely express their opinions, since they had another person with their viewpoint to support them. P2 thereby addressed our HMW: How might we enable demographically similar people to discuss their differing opinions on specific issues in a comfortable environment? When you're chatting with a friend about an issue and have a differing opinion, you can bring in two more people to help you explore the issue. These two people bring in more insight on the subject and expose the original two friends to even more diverse perspectives on the issue. One of the two new, added people (we call them chatters), agrees with one friend, while the other chatter agrees with the other friend. On the backend, we ensure that the two new chatters are similar in demographics to the original two friends. This system allows you and a friend to explore an issue together. Why is the friend there? Having a friend in a chat while confronting opposing opinions adds more familiarity to the discussion, thus making it more comfortable.

For our Dark Horse, we wanted to expand on this idea and see how we could expand it to include those four users (plus many more users). Additionally, we also wanted to explore different options of communication. We reasoned that face to face communication will perhaps be more engaging and convincing for people to explore different opinions since now they can associate a face with an idea. This is a dark horse prototype that stems off of our original idea chat-with-me where users could get exposure to more diverse opinions by being placed in a group chat with 3 others, of which half of the people had differing views. In our dark horse idea, we have a /debate option in the facebook messenger bot instead where a user can initiate a debate on a certain topic and people can opt to join in. This debate is then launched using our debating chat-with-me application. The first 20 users can speak during the debate and the remainder will have the option of being audience members and voting which side they think won the debate afterwards. We believe this still addresses our goal of allowing people to explore diverse opinions but it does so in a not so comfortable environment as there are many others viewing and debating. This is particularly a dark horse prototype because it doesn't seek to burst echo chambers by exploring diverse opinions. It rewards participants for doubling down on their position. They only reason why a debater would listen to the other side's perspective and empathize with them is to create a good rebuttal. This idea is a dark horse because people are

rewarded for standing firm in their opinions. With this idea, we are trying to see if increasing polarization stretches echo chambers like balloons, causing a pop to the entire thing. Note that the core user task between P2 and P3 for filling out profile information and signing up/logging in to the website, communicating with the facebook bot and bringing in other users from chatwithme to either chat or debate remains the same.

To determine concretely how users reacted and interacted with the two prototypes, we practiced our study on two different groups of people and see how they reacted to our experiment. In both of the experiments, users seemed to have negative reactions to the login/sign up page; specifically, the part where users input their account information and download the google plugin/facebook bot. Users found that they had to fill out too much information, and that the page and therefore, the profile page seemed cluttered. Additionally, the users were unclear as to which buttons to press/if they were supposed to press buttons while waiting for the plugin and bot to download. They were also not sure how to save the information they had on their profile. Our prototypes (P2 and P3) were designed to incorporate the autosaving mechanism, but the prototypes did not explicitly indicate this feature. Therefore the users lost in trying to find the save button after filling out their profile information. For prototype P3 (our dark-horse prototype), although the debate room was generally well-received, there were a couple negative comments made towards the debate feature. We showed the user a browser screen with all of the webcast screens, and they were confused which screen was theirs; this is because webcast screens did not explicitly indicate which user screen belonged to the current debater. The user also thought it was repetitive that they were prompted to join the debate room when they were the one who initiated the debate. Note that this is a surprising observation since the users of the P2 prototype felt that they should have received a chat notification when they were the one who prompted the facebook bot with /chatwithme/ command to launch the chat.

Overall, users seemed to have a positive reaction to Chat with Me. In future iterations, we would want to clarify the actions performed on the login/account information page and make it explicitly clear that there is an auto-saving mechanism used. Furthermore, the user would need much more hand holding to explain how the various parts, chatwithme.com, the fb bot,and the google chrome plugin all fit together. There would need to be a better onboarding process as we discovered that parts of our product was not intuitive. We would also want to make the "Debate with Me" functionality much clearer. Specifically, we will clearly indicate the user's unique id being displayed on each debate screen, so the browser screen with webcast screens will have no ambiguity as to which screen belongs to the particular user debater. We will also have to conduct further user studies to determine whether or not to show notifications prompting users to join the chat or debate room if they were the ones who launched the chat or debate, since we observed mixed reactions/feedback on this issue.