Team Solo Summary Report

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Introduction

As a one-man team, I encountered a unique challenge in that I had to adjust the scope of my project such that it was realistically completable by only a single person, while still applying the methodology and design work taught in the course, which is most effectively done by teams of people. As a result, my project had to be simpler in terms of features and functionality, but still have the capacity to showcase the imparted design techniques.

Design Problem

Often, university students find themselves with excessive amounts of spare time. This tends to be the result of unlucky course scheduling, sometimes out of the hands of the students in question. Sometimes there can be things for those students to do, such as studying for exams or working on projects, but too often, they find themselves bored with little to do to pass the time. The design problem I am choosing to tackle is to come up with a way to match bored individuals with extra time on their hands together, so that they can more enjoyably spend their excess time. To this end, I have decided on a phone app to facilitate this, built on the assumption that nearly all university students have a smartphone capable of running such apps.

The main premise of the app would allow users to browse other people who are also using the app who have spare time. The user can choose which of those people they might want to spend time with. If two users both select each other as someone that they want to meet with, the app will match them together and display a map view with both user's locations displayed so that they can meet. It would also have features for users to choose if they're willing to travel to meet someone, or if they would prefer that people they match with come to them, this way the map view could give directions and instruct one of the users to move to the other. The app would importantly allow users to describe themselves and upload photos of themselves to give other users an accurate description of what kind of person they might be like and to better "sell" themselves and someone worth spending time with. Though there might be concerns from similar apps with people "catfishing" each other by using fake photos or names, the casual nature of this app makes that mostly pointless. If you can't recognize the person you're trying to meet, then it's rather pointless to use fake photos.

Ultimately, I believe that this this problem is one faced by many university students and I believe that the design that would go into creating something like this would be worthwhile to pursue.

User Research and Findings

Since the stakeholders for the app were identical to the target audience, university students with access to a smartphone, all the user research focussed on that perspective. The two IDEO research methods that were used were Secondary Research and Surveys and

Questionnaires. Together, they allowed me to discover what people liked and didn't like about matchmaker apps, specifically Tinder, and allowed me to poll the target audience about which solutions they preferred me to implement. The findings from the user research informed me that people who use matchmaker apps rarely look at photos of potential matches beyond the first one. They also tend to accidentally accept/reject others often and wish they could correct it. Finally, they dislike the in-app messenger and prefer making first impressions in person.

Design and Justification

Once I had the feedback from the user research the design of the prototype began to take shape. To combat the possibility of making mistakes, I decided early on that one of the core tenants of the app was going to be its simplicity. I decided that the best way to do that was to have each view during the main user flow of the prototype contain only a handful of decisions. This way if the user only cared about the main purpose of the app, their experience would be easy and quick to learn. However, to maintain this simplicity, all the other functionality of the app needed to be grouped together and offloaded to a different section of the prototype. I decided the best way to do this was to make use of a sandwich menu. In this way, all the functionality of the app that isn't used in the main flow can be accessed quickly, but only when the user wants to make specific changes and thus wouldn't be overwhelmed by the number of navigation options. This also made it important that the sandwich menu could be accessed from any view of the prototype, which was another design consideration I had to plan around. Finally, I wanted to maintain an internal logic to the prototype that negative actions should be located on the left side (like the rejection button) while positive actions (like the accept button) be located on the right. This would be an easy pattern for the user to learn and would help prevent errors in the future.

Heuristic Evaluation and Findings

After the first round of hi-fi prototyping, I applied heuristic testing to it to see how well it met the standards for design that the heuristics represent. In summary, the design addressed most of the heuristics adequately. Some heuristics, such as #1 "Visibility of System Status", #9 "Help Users Recognize, Diagnose, and Recover from Errors", and #10 "Help and Documentation" don't apply very strongly, as this version of the prototype is only the interface without a coded back-end that could create the errors that these heuristics address. Some of the heuristics it passes very strongly, such as #8 "Aesthetic and Minimalist Design" due to it's simple, low-decision per view structure. The other heuristics make it clear that there are areas for improvement still. Most notably is the ability to backpedal certain decisions. If a user accidentally rejects someone they didn't mean to, fixing that mistake requires them to view through all potential matches an additional time to reach them. Additionally, the design originally had iOS in mind, but the current version of Adobe XD that the prototype was made in did not come with full UI support for the most recent versions of iOS. As a result, the prototype was made with a very generic smartphone interface that could be made to better match reality in future iterations. Some additional warning or confirmation messages could also be added, to

prevent accidental log-outs. Alternatively, being a phone app could mean that requiring accounts might not be needed at all, and the important app data could all be stored locally on the phone.

Usability Testing and Findings

The goal of this late-stage usability testing is to take the previously developed high fidelity prototype and test its design capabilities using real users. This will highlight both areas of good design and areas that still need improvement in the final iteration. The target audience for the app being prototyped is university students and as such I decided that it was best for the test users to be students as well. Ultimately, I decided to use my current roommates as my test users. Each of them are university students with different major fields of study spanning different degrees of technological literacy. I felt that this small but diverse group would best capture the target audience and yield the greatest external validity. I acknowledge that there exists a bias as I consider them to be my friends, that they might not truthfully report on any negative experiences they encounter. To alleviate this, I told each of them beforehand that my goal was to find the areas of design that need to be improved. This way any attempts to be a "good participant" would instead yield more negative feedback, not less, hopefully reducing the influence of the bias.

The testing plan will primarily focus on the Think-Aloud method. Each user will be seated one at a time with the prototype in front of them and asked to carry out specific goal-centered instructions which I will list below. They are also tasked with speaking aloud all their thoughts regarding the prototype, such as why they pressed certain buttons or areas of the screen views, comments about the overall design, and criticisms about anything they find frustrating or unsatisfying. I will be sitting next to them taking notes on their comments as well as noting the relative learnability and efficiency of the system as well as any errors. After each user has tested the prototype, I will bring them back the following day to repeat the same instructions to test the memorability of the system.

The test will proceed as follows. Each user will be faced with the main log-in screen of the prototype. For their the first instruction that they will be instructed to "Log in and match with someone." Timing this instruction will begin when they touch the mouse and will last until they reach a successful match screen. The second instruction will be to reset their availability status in the app by asking them "You don't have any more spare time, but you don't want to turn off the app or log out, what do you do?" Timing for this instruction will end when they return to the main screen by selecting 'I'm not free' in the menu. The third instruction will be "Change you profile photo and then log out of the app", timing will stop when they return to the log-in screen. With these three instructions, the test user will be asked to tour through the main functionalities of the prototype while giving feedback that will necessitate any further changes in the future version of the prototype.

Photos of the testers upon competing the tests and the written notes taken for each of them during the testing will be provided at the end.

There were a few interesting discoveries of note about the hi-fi prototype that the user testing revealed. Starting with the positive, five out of six noted that they liked the colors used, with the greys and blues especially, they also all noted that the sandwich menus felt snappy and satisfying to open and close. Both contribute to the design of the system feeling satisfying. None of the testers had problems with using the accept or reject symbols when "choosing" people in the matchmaker, and all of them

mentioning that it was like similar apps such as Tinder. This represents very positive learnability of the design, as none of the testers ran into issues using it from the start. Additonally, when the test users were brought back to repeat the test instructions, they all managed to do so faster than the first time, which reflects on the design having strong memorability. On the negative side of testing, all the testers were unanimously confused for a moment when the system auto-filled their log-in credentials for them when they clicked on the keyboard. All of them noted that it was unexpected and that they didn't like it. Despite this, I would rate this problem at low severity. This interaction is simply a limitation of Adobe XD which the high-fidelity prototype was designed in. Since it cannot handle text boxes, this was the next best way I could think of to indicate to the user that this is where a text box would normally be, and that you would use the standard keyboard to input text there. It is also a very simple problem to fix when the prototype eventually becomes functionality complete. Another issue that all the testers noticed was that the match screen only showed the location of the two matched users, but not any way to facilitate them meeting. This issue I would rate as a severe one, as the ability to dictate who should move and who should stay where they are should be a core piece of the final product's functionality. Therefore, it really should be better represented in the high-fidelity prototype. Three of the testers also remarked that they noticed that there was a log-in screen, but no option to create an account to log in with. This problem I would rate as moderate severity; its inclusion helps sell the "high-fidelity" aspect of the prototype and it is functionality that would likely be included in the final product anyway, so it should be added to the next prototype iteration. Three testers also noted that they didn't like how temporary the profile photo change was. In the current iteration, the photo only changes for that screen view, then reverts to default when you change to a new screen. This was again a limitation of using Adobe XD, as adding "permanent" photo changing would require more time to implement than it was necessarily worth, since all that was needed was the ability to convey the feature to the tester. Finally, one user was quite outspoken about not having the profile photo in the sandwich bar be clickable. Since it occupies similar space to the sandwich bar icon before it is pressed, it is possible to accidentally double tap on the sandwich bar, which would trigger the photo as a button to move to the change profile photo section of the app, losing the previous screen the user was on. This is a fairly low severity problem, as it can be fixed very easily, but the tester made a convincing enough argument for it that I will likely remove it in the next iteration.

After examining the feedback from the usability testing, the following changes were made in the next iteration of the prototype. A switch button was added to the sandwich menu at the top which would allow the user to indicate if they would prefer to stay where they are in the event of a match or if they are fine with moving to the other user's location. I also expanded the profile photo functionality so that when you change your profile photo it will remain using that new photo for the rest of that instance of the prototype, even if the user logs out and logs back in. Finally, I removed the button functionality from the profile photo in the sandwich menu, so that users won't accidentally be sent to the change profile photo section of the prototype by accident.

Recommendations for Next Iteration of Design

I believe that the current iteration of the high-fidelity prototype in Adobe XD is about as far as it can reasonably go. Future iterations will likely need to begin developing functionality to the system that can't be mimicked in XD. Therefore, the next prototype will likely have to be build in a different program, importing the assets from Adobe XD. Once that is done, the

potential for more changes to the interface can be made to make it more and more like the final product. The first addition to the prototype that I would like to see added is functional text boxes. This would allow for features like editing profile names and descriptions to more accurately represent the functionality that users will expect. It also means that text boxes that are supposed to contain large amounts of text, such as the Terms & Conditions section can be scrolled through like a real text box. The next iteration could also look at maintaining a list of user accounts so that users could sign in with unique credentials and create new accounts that persist over the instance of the prototype. The next iteration could also try and expand on the profile photo feature by allowing for the user to import photos to simulate reading them off a phone. Additionally, a pool of fake users could be added to the prototype, allowing it to randomly generate the states of the fake users, to better simulate the randomness of people you would find with the app at any given time of day. Perhaps even some features seen in other matchmaking apps could be included, such as “super likes” or perhaps a favorites list that can automatically try and match with if you know that person is someone you like hanging out with.

Conclusion

In conclusion, I have found that this design prototyping project has succeeded in solving the initial design problem. Not only was it manageable in scope to be completed by a one-man team, but I believe that the design is an adequate solution to university student boredom. The casual nature of the apps intended use allowed for the design to remain focussed and minimalistic. Ultimately, this meant that the design could be feature-light, increasing the prototype’s learnability, memorability, and error-prevention. While the design space has room to grow, and more quality of life features could be implemented to increase user satisfaction, I believe that the prototype represents an elegant solution to the initial design problem.