

## P4 Usability Testing

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. The fourth and final instruction asks the test user to “Change your app setting so that matches come to you, then match with someone after reading their bio.” The timer for this instruction ends once the user matches with a person using the new guidelines. With these four 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 completing 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. 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 Tindr. On the negative side of testing, all of 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.