

# **Roommate Reviews Mobile Application**

## Stage Five Report

### Team H

CPSC 481 - Fall 2020  
December 2, 2020

Lucas Longarini, Abel Tekeste  
Joel Poirier, Josie Khampheng

## **Executive Summary**

A problem that any renter faces along with finding where to live is who to live with. Often, renters just have to hope for the best. The objective of this project was to solve this problem by creating an app to compare the compatibility of potential roommates. The methods by which this result was achieved included an interactive design process with significant planning and prototyping, including research through IDEO cards, user task descriptions, features list and affinity diagram, storyboarding, a low-fidelity prototype, and a high-fidelity prototype. Additionally, the high-fidelity prototype went through multiple evaluations and refinements through heuristic testing. The result of this project was a fleshed-out app hosting multiple features and adhering to design principles to ensure usability and user-friendliness. Overall, the wide variety of design techniques and evaluations helped to shape the app from a rough demo to something that could even be used in a professional context.

## **Introduction**

Throughout this report, the design problem as well as our solution to this problem, as well as the entirety of the design process involved will be explored. The steps our team went through to go from rough ideas and discussions to a polished final product will be highlighted. First, the problem and our intended solution will be described, followed by an initial layout of stakeholders and users. Then, an explanation of the research and research methods used, followed by our prototype exploration starting from a low-fi mockup to a high fidelity prototype along with the heuristic analyses to go along with these will be discussed. Finally, the lessons learned throughout the design process and conclusions drawn will be examined.

## **Design problem**

In this project, we were able to choose any problem to tackle we wished. We chose to design a system to ideally help renters evaluate and screen potential roommates before moving in, because this is a common issue our age demographic faces and we had heard horror stories of people moving in with strangers and being miserable as a result. In the current day and age where it seems like there is an app for everything, it was surprising that there was no popular solution to this common problem. Thus, we decided to create a solution to this problem which would alleviate the mystery from choosing a roommate and ideally allow users to find other potential roommates that they are most compatible with to help to reduce “bad roommate” experiences. From this initial idea, we also considered problems within the renting experience we could simultaneously address with our solution, such as bad roommates not being held accountable for their actions after a lease has expired and they move on to find someone new and unsuspecting.

## **Design solution**

The project idea our team decided on to meet this challenge was to design a Roommate Review app, wherein users can search for roommates and landlords based on their profiles on the app, which contain information about these users, personality types, personal information, and reviews from other users. The system is a mobile phone application and can be downloaded by anyone, though its intended use is by individuals who are renters or landlords.

Overall, the system solves the problem of roommates and landlords often not knowing much about each other prior to consenting to live together, and it solves this by helping all stakeholders in a renter-landlord situation to have access to a much more detailed and diverse source of information than the traditional methods of meeting

them upon moving in. Further, it implements a personality test and algorithms to try to match eligible roommates based on compatibility, similar to how a dating app might. This way, like personalities of potential roommates will ideally be matched in order for these users to better coexist as actual roommates. Further, our solution also involves several quality of life improvements for a landlord-renter setup such as household chat groups and ability to review past roommates after a lease has expired.

## End-user and stakeholders

### Renters (End-User & Stakeholder):

- Those who are looking to gain information about potential roommates/landlords. Also could be those that are already living with a roommate or have recently moved out and would like to rate their experience with them.

### Landlords (End-User & Stakeholder):

- Landlords who are looking to gain information about potential renters. Also could be landlords who would like to detail their experiences with past or current renters.

### Design Team (Stakeholder):

- Responsible for designing the system, consulting with end-users, and reporting to supervisors.

### Supervisors (Stakeholder):

- Responsible for ensuring the team stays on track and meets objectives through weekly meetings and periodic grade-based feedback.

## User research methods and process

During our user research, we used three different research methods in order to get an idea as to what the end-user would want and need from our app. Our first research method was Surveys and Questionnaires in which we created a questionnaire and sent it to as many people as we could in order to gain information and find out what people like or dislike in a roommate, which could be helpful in developing the personality test. This was a great choice of a research method as it allowed us to gain insight into our users' problems, and receive suggestions for features we can implement. We also received their opinion on existing apps that solve similar issues.

The next research method we put into use was Scenarios. This research method was a great way to think about varied specific user experiences. It helped us as designers since it gave us a better perspective of what the user might experience using the system and helped us to think about how to address and accommodate for different user types and experiences among them. We thought about how app usage would look, from the perspective of a new renter looking for roommates or a landlord, a current renter looking to review their roommates/landlord, and a landlord looking to choose a new tenant.

Our final research method was Activity Analysis. This was a great way for us as developers to analyze the activities involved in learning about a roommate/landlord and thus, this method helped us analyze all the activities and procedures we could think of. We started by thinking of ways people look for roommates/landlords and the activities involved. We also considered how landlords look for potential tenants. This lead us to think about what sort of attributes people want to learn about potential roommates and the ways in which they discover this. Brainstorming these ideas helped us discover areas that work, and areas that could be improved which in turn, gave us insight into potential solutions for our users and how to make their life easier.

## User research findings

- **Surveys and Questionnaires:** From this research method we found that users had mixed opinions when asked if they would use an app similar to Tinder to find roommates. Users were more likely to use an app similar to Google Reviews to find roommates. Most users were concerned with bots and fake reviews in these apps. When users were asked if they would take a personality test to help match them with roommates, approximately 82% said yes. Profile page, reviews page and personality test were the features that users wanted most in our app.
- **Scenarios:** Using our Scenarios we quickly found issues with our current vision of the app that we had not previously considered. As a response to our Scenario, we then were able to iterate our design to fix any issues we found.
- **Activity Analysis:** This method brought to light a couple of concerns and needs that were unanticipated initially. This also allowed the team to empathize with users of the app and think of more creative and deeper ideas that had not been discovered

Overall, using all three of the user research methods, we were able to look through the user's perspective as to what we could implement or improve on our ideas. Our ideas were made better as we figured out what thing might have worked and what might not have worked by asking our end-users and by analyzing what our end-user would want.

## Important design choices and justification

We obtained important user tasks based on the user research, and grouped them into must have, important, and nice to have categories. The major parts of our design revolved around the user reviews, user search, profile page, and personality test tasks, which were the most important user tasks.

The application is targeted towards users of all ages and backgrounds. With this in mind, we designed the application to be simple so that it is easy to learn. We also minimized the number of options for each page of the application. For the hi-fi design, we went with a muted and limited colour scheme for a minimalist look. Many of our design choices were also based on popular applications to lower the learning curve. For example, the five star rating is familiar to many users, so we added this to our design.

From the user research, it is clear that each user has different needs and preferences. Although there are many features, the user is free to pick and choose which ones they would like to use. A back button or navigation bar is available in each part of the UI so that the user can exit the feature when needed. The design never forces the user to go through the entire process of an interaction.

## Low-fi design lessons learned

During the low-fi design process, the team found the sketches to be a very useful tool. Sketches are quick and easy to create, which allowed us to come up with many ideas for our wireframe. These ideas included potential features, layout, and overall look of our design. Our team then selected sketches we liked the most to include to our wireframe, which helped refine it. For example, the map feature and personality test design were based on some of the sketches. Through this process, we learned that sketching is a very important part of ideation, and having more ideas leads to a polished application.

The cognitive design walkthrough and storyboard made us consider these ideas from the user's perspective. By having the user in mind, our ideas were further polished to become simpler and more user friendly. As a result of the cognitive design walkthrough, we merged redundant tasks together into one idea. The storyboard also helped us understand how the user might use the application.



*Some sketches that influenced our prototypes*

Creating a clickable wireframe generated ways that the individual parts interact and flow with one another. The biggest challenge for the team was figuring out the sequence of user actions. The wireframes are more refined than our sketches, which helped us visualize the end product. Most importantly, the wireframe was a base for our hi-fi prototype. The hi-fi prototype was a time consuming process, but having the wireframe helped speed up the process. Overall, the low-fi design process was very important for generating and refining ideas, and for giving a rough idea of layout and content of our application.



*Parts of the Balsamiq wireframe*

## Hi-fi design lessons learned

The biggest challenge of the hi-fi design was creating a prototype that looked and felt realistic. We also had to make sure that each part of the prototype was consistent with one another. As mentioned earlier, the wireframe really helped with the hi-fi design process; the initial hi-fi prototype had similar actions and flow as the low-fi prototype. The hi-fi prototype helped reveal flaws that were not obvious before.

The heuristic evaluation helped to significantly improve the hi-fi prototype from the initial design to the second design. Having a realistic prototype helped our team to evaluate the UI in a similar way to a real application. The heuristic evaluation played a big role in creating a second prototype that is more user-friendly and simple.

Our team chose Figma to create the hi-fi design. Figma has a larger learning curve than Balsamiq, so the design was more time consuming to produce. It might be worth trying other prototyping software in the future to see how it compares with one another.



*Some parts of the initial hi-fi prototype.*

## Heuristic evaluation and findings

After the high fidelity prototyping was done, the team was split into 2 groups; those doing a heuristic evaluation and those reviewing the evaluation to generate severity ratings. The heuristic evaluation looked at the following categories:

1. Visibility of the system
2. Match between system and the real world
3. User control and freedom
4. Consistency and standards
5. Error prevention
6. Recognition rather than recall
7. Flexibility and efficiency of use
8. Aesthetic and minimalist design
9. Help users recognize, diagnose and recover from errors
10. Help and documentation

After the evaluation the main problems with the highest severity were:

- No error messages to help user error recognition were present.

- The navigation was poor and not intuitive. The navigation also added more button clicks and menus for the user to go through.
- There was no help and documentation for the user.
- The search feature had very low functionality and usability and had a very confusing layout.

After the heuristic evaluation was completed, several important improvements were made to the high fidelity designs. The largest and most impactful change we made was an overhaul of the navigation system. Instead of the previous side drawer design, we switched to a tab bar for better usability. This made the navigation much more intuitive and because it is visually available to the user on all major screens, unlike the side drawer. We then overhauled the search functionality for better querying capability and support for multiple queries. This improved not only functionality but usability and the overall visual design of the app. We also noticed that there were no error messages to help the user recognize and recover from errors in the initial prototype. New messages added to the login page helped users realize what error has occurred and how to fix it. Lastly, help and documentation were added to the profile page as they were initially missing.

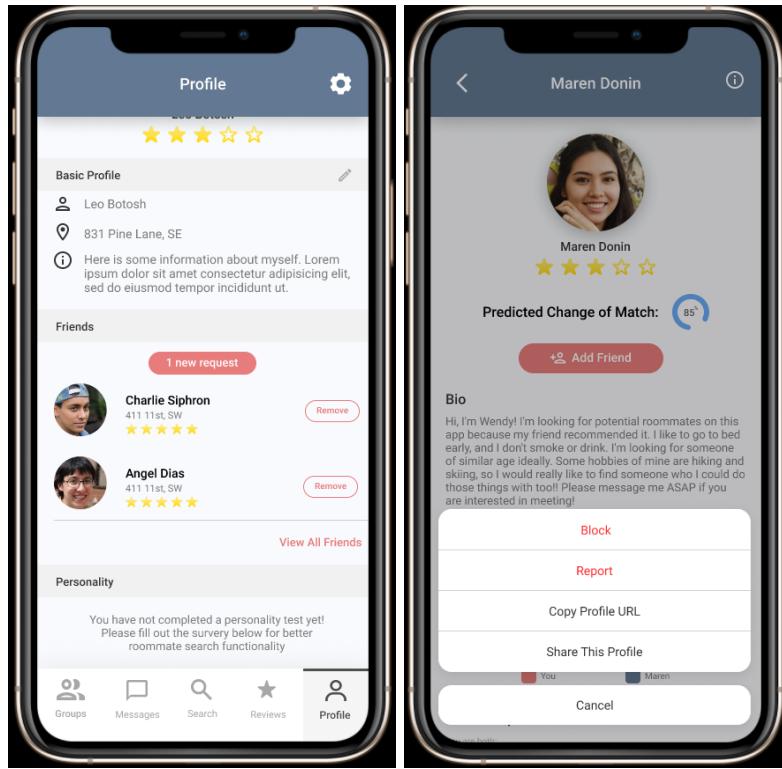
## **Changes and critiques**

In Stage 5 we added two more tasks; friends lists and a “more options” feature on others profiles to report, block, or share. We also made minor adjustments to the navigation events, white spacing, touch interactions, and consistency of the whole prototype. We found that this made the prototype feel much more like using a real app with native device gestures implemented. Changes that we did not have the time or skills for but should be done in the future are things like:

- Better eye pleasing and modern looking layouts and components
- A notification/alert dialog
- Usability tests with multiple different categories of end users

Some other optional changes that could be done in the future but are not critical are:

- A more vibrant and eye catching color theme should be used
- Sound effects if possible in Figma
- Creating standard font themes from (H1 - H6)



*Friends list and more options in the final prototype.*

## Conclusion

Overall this project has taught the team a lot about researching, designing and evaluating an app. We have gone from an idea to a full high fidelity prototype in a couple of months. Each stage taught valuable information that will be useful to know in the field (even if you are not designing it yourself). The knowledge gained using prototyping software tools was especially helpful for us and for anyone who plans to go into front-end design and/or development. The workload was a bit more than we expected due to a group member unfortunately dropping the course early in the year, leaving us one member short. We also felt the design and use of a portfolio was useful but a bit out of the scope for this course as that dealt with more web development and deployment.

Online repository:

<https://github.com/LucasLongarini/CPSC-481-Project>

Online portfolio:

<https://lucaslongarini.github.io/CPSC-481-Project/index.html>